Vol. X, No. 3 March, 1934

SOAP

SOAPS • CLEANSERS • INSECTICIDES • DISINFECTANTS
POLISHES • EXTERMINATING • SANITARY SUPPLIES

The House of Ungerer

M. NAFIS & CO.
Synthetic Aromatic Chemicals

CHARABOT & CO.
Superfine Essential Oils

S & G DE PASQUALE
"Gold Anchor" Bergamot, Lemon, Orange Oils

STAFFORD ALLEN & SONS
Oils Patchouly, Sandalwood, Vetivert

UNGERER & CO.
Essential Oils—American Aromatic Chemicals
13-15 WEST 20TH STREET, NEW YORK

How many square feet does it cover?
Give me a wax that is easy to apply
I want a glossy floor —not a slippery one
It must give a hard lasting finish
It must reduce cleaning costs

IT'S A WISE JOBBER

WHO KNOWS HIS CUSTOMER'S PROBLEMS

These Falcon Liquid Floor Waxes solve any waxing problem your customer may be troubled with. Judged on wax content or cost—put to any test of durability, coverage or appearance, they readily prove their superiority.

FALCON LIQUID FLOOR WAX

This solvent wax spreads easily, dries quickly and polishes brilliantly. It produces a hard, wear-resisting, non-slippery surface that is difficult to mar and easy to keep clean. Very economical, for it requires rewaxing only once or twice a year.

FALCON NON-BUFFING WAX

This new wax cannot injure any floor because it is strictly a water wax containing no solvent whatsoever. It covers an amazing area per gallon, dries quickly with a real sheen, needs no polishing, and so cuts floor maintenance costs 50%.

If you aren't selling Falcon Liquid Floor Waxes—begin now. Your customers will welcome them and they will build business for you faster than any other waxes made.

EAGLE SOAP CORPORATION

HUNTINGTON, INDIANA

FALCON LIQUID FLOOR WAXES

Monsanto

QUALITY carries through. Care and skill in the manufacture of your basic chemicals is reflected in the quality of your finished products. Selection from the Monsanto list assures complete satisfaction.

Coumarin Monsanto
Methyl Salicylate Monsanto
Phenol U. S. P.
Cresylic Acid
Santochlor
(Pure Paradichlorbenzene)

Manufactured by
Monsanto Chemical Company
St. Louis, U.S.A.

New York • Boston • Chicago • San Francisco • Montreal • London

CHEMICALS OF QUALITY
Monsanto
ST. LOUIS, U.S.A.

Chemicals

FRAGRANT—LASTING ODORS

from one dollar to two-fifty per pound

AROMATICS

THESE ODORS, of course, are ready-to-use. We have tested these perfume oils in soap with the aid of our soap-making equipment. They have passed the most exacting requirements. So, you can use them with the utmost confidence in results. Send coupon for free sample. (This offer applies only to soap makers.)

ATTACH THIS COUPON TO YOUR LETTERHEAD FOR FREE SAMPLE CAKE OF SOAP—SPECIFY ODOR OR ODORS DESIRED

FREE OFFER. *For soap makers only*

E. I. DU PONT DE NEMOURS & CO., Inc. S-2
Fine Chemicals Division, Wilmington, Delaware

GENTLEMEN: I am attaching this coupon to my firm's letterhead for FREE sample cake of soap perfumed with (check odor or odors desired):

☐ GARDENIA ☐ SWEET PEA ☐ WHITE JASMIN
☐ WHITE LILAC ☐ FLORAL BOUQUETS

*Name*_____

*Address*_____

*City*_____ *State*_____

E. I. DU PONT DE NEMOURS & CO., Inc.

Organic Chemicals Dept., Fine Chemicals Div., Wilmington, Del., Agents for Société des Usines Chimiques Rhône-Poulenc

SOAP

Reg. U. S. Patent Office

Volume X
Number 3

March, 1934

Contents

- Editorials 15
- A Coconut Oil Tax—or What? 17
- Soap Consumption in Hard Water Districts 21
- Fatty Alcohol Sulfates—
  By Cornelia A. Tyler 25
- Soap Code Rulings 27
- Persulfate Soap Bleaching—
  By Paul I. Smith 55
- Derris in Fly Sprays (Part I)—
  By Campbell, Sullivan and Jones 79
- Control of House Ants—
  By Alfred Weed 87
- Personal and Impersonal 35
- Contracts Awarded 43
- Records of Trademarks 49
- New Patents 41
- Market Reports 44-47
- Current Raw Material Prices 49-50
- Products and Processes 61

INSECTICIDE and Disinfectant Section, which is included as a department of every issue of SOAP, begins on page 67. Oil, Fat & Soap Production Section begins on page 55. These sections contain news, articles and editorial opinion of particular interest to their respective industries.

Published monthly on the 15th by

MACNAIR-DORLAND COMPANY, INC.
136 LIBERTY STREET NEW YORK, N. Y.

Subscription rate $3.00 per year. Foreign, except Canada, $4.00. Canadian, $5.00. Copy closing dates—7th of month of issue for reading matter and 25th of month preceding month of issue for display advertising. Entered as second-class matter, April 11, 1931, at Post Office, New York, under act of March 3, 1879. Mail circulation, February, 1934, issue 2,707 copies. Total distribution 3,000.

● **PACKAGED**

..to draw the gaze of trade..to guide hands that reach for QUALITY..unseen inside!

● **CONTAINERS**

that mark their contents for leadership in display..in trade opinion..in consumer acceptance.

● **YOUR BRAND**

..smartly packaged ..goes out to WIN!

METAL PACKAGE CORPORATION

110 E. 42nd ST., NEW YORK CITY

ESTABLISHED 1909

SALES OFFICES AND PLANTS • NEW YORK CITY • BALTIMORE • BROOKLYN • CHICAGO

THE FISCHER CAN COMPANY DIVISION • HAMILTON • OHIO

● **CONTAINERS**

... Styled and sized to suit ...

Color Lithographed or Plain

NOW you can package the 5 lb. carton of SOAP FLAKES . . . *profitably!*

THE 5-lb. package of soap flakes has come to stay! It is the economical package—it meets the expanding market—it has been well received and its popularity is rapidly growing.

Such a market calls for economical packaging —machine packaging—TRIANGLE packaging.

The new Triangle Gross Weigher with top and bottom carton sealer has been especially designed for packaging soap flakes, and it embodies a proved method of feeding and weighing that positively cannot damage the flakes.

It is fast, simple, flexible! It handles any size package from 1 to 5 lbs. Production 10 to 15 per minute!

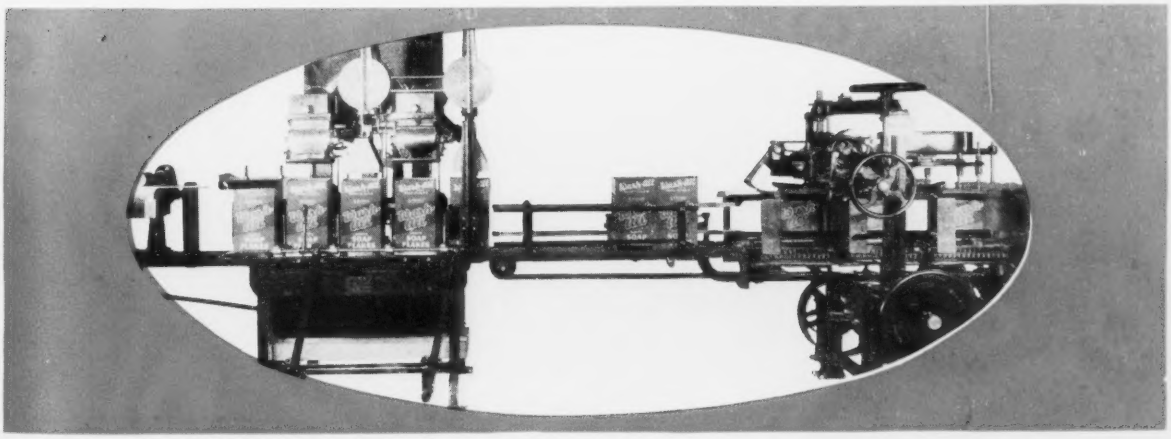
Find out about this new soap flake packer. Why not write today? The price *IS* low.

- **Accurate**
- **Flexible**
- **Simple**
- **Does not damage flakes**
- **Inexpensive**

Triangle Package Machinery Co.

906 N. Spaulding Ave.
Chicago, Ill.

New York — San Francisco



TRIANGLE

NO OVERALLS FOR THIS POLISH

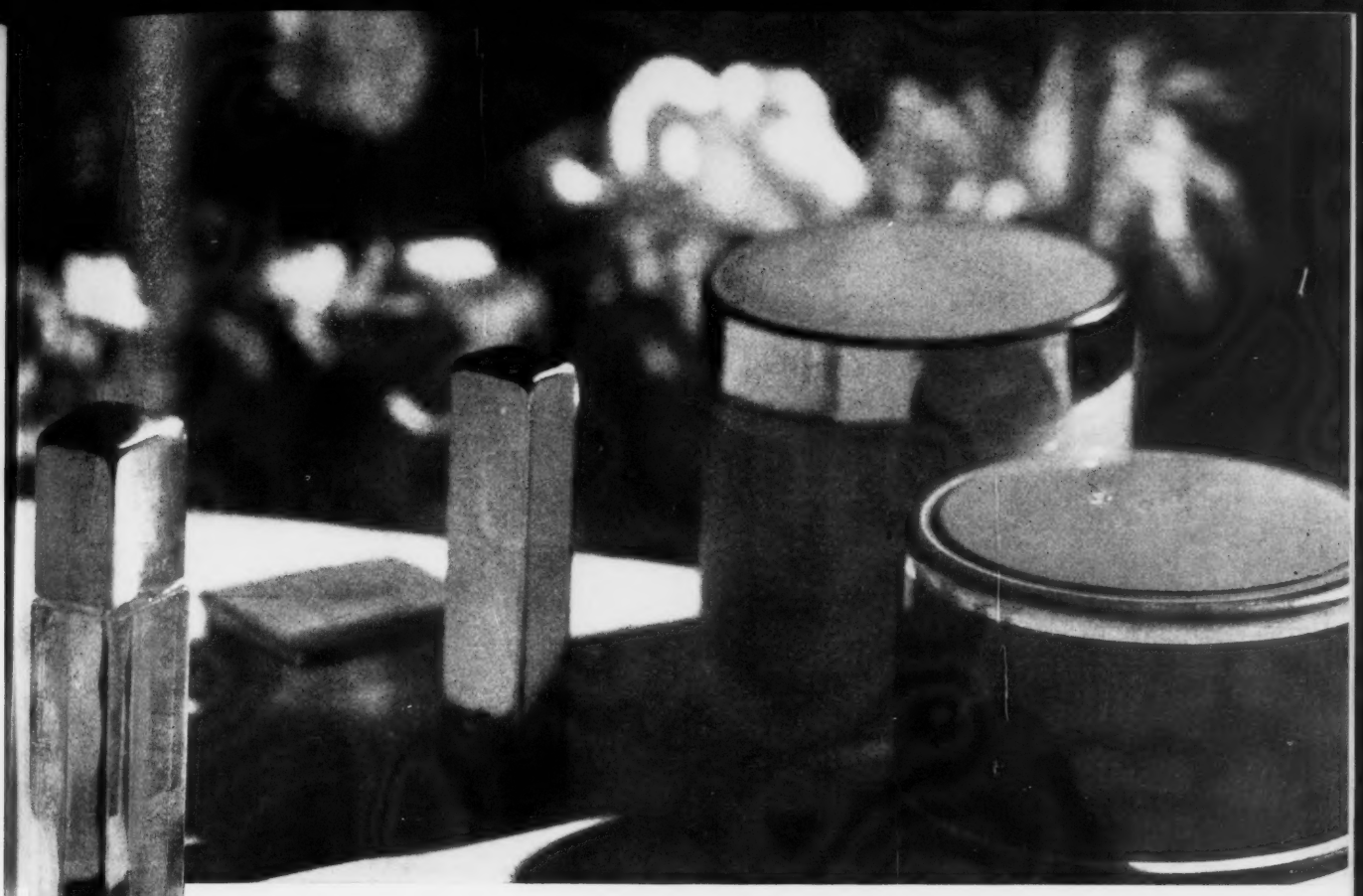
The thing that impresses one on seeing the Noxon packages for the first time is their modern well groomed appearance. A work-a-day product, yes—but dressed up to go places. Bluish-green foil labels with caps to match make a striking contrast with the white of the product. Look more closely, however, and you will realize the reasons for the effectiveness of these packages. Starting with attractively designed glass containers, that provide an easy and sure grip, their effective color scheme, eye arresting lettering, and last but not least, the convenient easy-to-remove and easy-to-replace Anchor Amerseal Caps combine to give to the Noxon line their final effectiveness and convenience in use, rendering them doubly acceptable and appealing to purchasers.

There are other specific and practical advantages that the Anchor Amerseal Cap provides for all sorts of products—liquids, semi-solids, pastes, creams and products of almost any form or consistency. Obviously we cannot explain them all in detail here, but we will send you, on request, our booklet, "The Anchor Amerseal Cap", describing this remarkable closure completely. May We?

ANCHOR CAP & CLOSURE CORPORATION
LONG ISLAND CITY, N. Y. TORONTO, CANADA

Branch Offices: Atlanta • Boston • Chicago • Cleveland • Detroit Houston • Los Angeles • Louisville • Montreal • New York • Philadelphia • Pittsburgh • Rochester • San Francisco • St. Louis • Toronto

ANCHOR CLOSURES FOR POLISHES & SPECIALTIES



Popularity came quickly, SO THIS MANUFACTURER* WROTE:

> Will you modify for us the odour you created for this perfume — in compositions suitable for powder, cream, and lipstick?

. . . all four odours (including the first heartening success) were created **exclusively** for this patron by the house of ALBERT VERLEY, INC.

The second commission, to laboratories with the experience and resources of Albert Verley, Inc., was merely a **technical matter**—certain modifications for the powder, to avoid discoloration—certain modifications for the cream, to avoid smarting the skin—and so on to a satisfactory result for each product in this well-known line. • The original **sales success,** however, contains food for thought — very practical thought, if you please, about the progress of your own business. • Somewhere in **your own line,** is there not hope for similar response to a new, modern composition? And a similar need for doing something about it? • The house of Albert Verley, Inc., will deem it a privilege to place its facilities at your disposal — including exclusive use of the finer synthetics discovered and perfected by Dr. Albert Verley, and the natural flower essences and essential oils of Tombarel Freres, Grasse, France. Please command us. • **Albert Verley, Inc.:,** David A. Bennett, President, 11 East Austin Ave., Chicago; L. J. Zollinger, Vice President, 114 East 25th St., New York. Exclusive American representatives for ETABLISSEMENTS ALBERT VERLEY, 8, Quai de la Marine, Isle St. Denis, (Seine), Paris, and S. A. TOMBAREL FRERES, Grasse, France. Pacific Coast Distributors: Mefford Chemical Company, 1026 Santa Fe Ave., Los Angeles, Calif.

*An obligation of honour, in accordance with the customary policy of Albert Verley, Inc., prevents naming our well-known patron

Albert Verley PERFUME COMPOSITIONS

Verley and Tombarel standard Essences, with competent but unobtrusive advisory service, are available to those equipped for compounding.

JAVANELLA

THE PERFECT FRAGRANCE for LAUNDRY SOAPS

●SOAP Makers who want to increase their sales cannot do better than investigate JAVANELLA, a soap perfume base with numerous advantages. It completely eliminates the odor of the fatty substances—it imparts an appealing fresh, clean, lasting scent—

It is ALKALI PROOF
—and costs always LESS than CITRONELLA

● JAVANELLA *is not subject to market fluctuations . . .*

● WRITE FOR SAMPLES *and* QUOTATIONS

FELTON CHEMICAL CO, Inc.

Executive Office and Factory 599 JOHNSON AVE., BKLYN., N. Y.

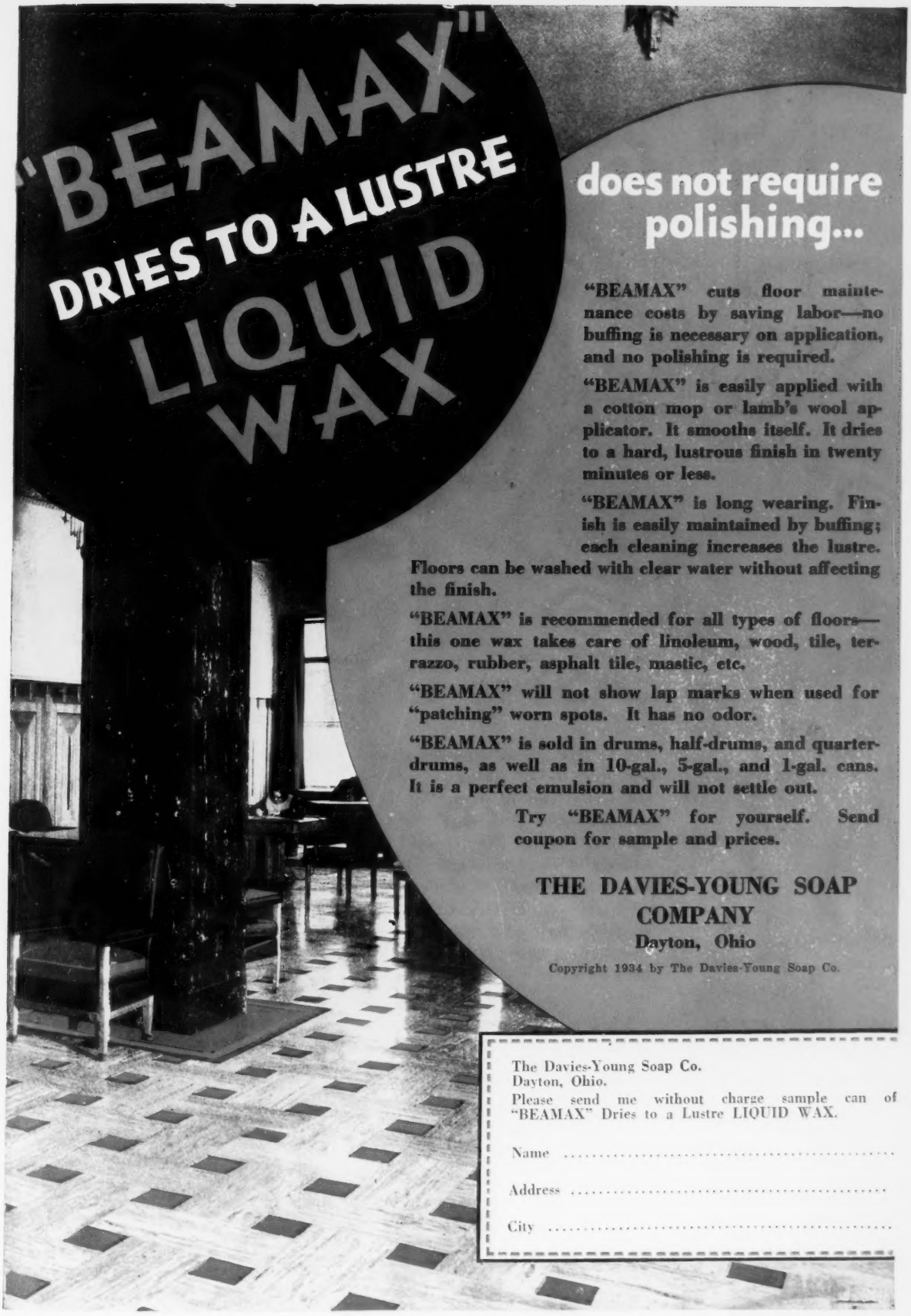
Chicago, Ill., Offices and Warehouse—1200 North Ashland Ave.

Los Angeles, Cal., Office—515 South Fairfax Ave.

Also representatives and stocks in the following cities:

NEW ORLEANS, LA.
Robert E. Felton
Balter Bldg. Room 407

ST. LOUIS, MO.
Keiffer Sales & Adv. Service
1014 Locust Street



does not require polishing...

"BEAMAX" cuts floor maintenance costs by saving labor—no buffing is necessary on application, and no polishing is required.

"BEAMAX" is easily applied with a cotton mop or lamb's wool applicator. It smooths itself. It dries to a hard, lustrous finish in twenty minutes or less.

"BEAMAX" is long wearing. Finish is easily maintained by buffing; each cleaning increases the lustre. Floors can be washed with clear water without affecting the finish.

"BEAMAX" is recommended for all types of floors—this one wax takes care of linoleum, wood, tile, terrazzo, rubber, asphalt tile, mastic, etc.

"BEAMAX" will not show lap marks when used for "patching" worn spots. It has no odor.

"BEAMAX" is sold in drums, half-drums, and quarter-drums, as well as in 10-gal., 5-gal., and 1-gal. cans. It is a perfect emulsion and will not settle out.

Try "BEAMAX" for yourself. Send coupon for sample and prices.

THE DAVIES-YOUNG SOAP COMPANY
Dayton, Ohio

Copyright 1934 by The Davies-Young Soap Co.

The Davies-Young Soap Co.
Dayton, Ohio.

Please send me without charge sample can of "BEAMAX" Dries to a Lustre LIQUID WAX.

Name .....

Address .....

City .....

MAKE YOUR PRODUCT

EASY TO SEE EASIER TO SELL

That's the key to successful selling these days. Make your product *stand out* on display. Stop the eye—and you start the sale. Maryland *Blue* Bottles and Jars will do it—and they are available in a wide variety of stock shapes and sizes which are particularly suitable for liquid soaps, creams, shampoos, shoe polishes, furniture polishes and automobile polishes.

This rich, brilliant *blue* glass dresses up products which, in themselves, may be cloudy or lifeless in appearance. And this same distinctive *blue* color stops the customer's roving eye, makes your product easy to identify, serves as a reminder to buy. Result: Your product is seen, recognized and bought more frequently.

Let us send samples so you can see *your* product in Maryland *Blue*. In requesting samples, tell us the nature of your product and the sizes in which it is packed. Or, better still, send us samples of your present containers. Maryland Glass Corporation, Baltimore, Md. New York Representative, Two-Seventy Broadway, New York City; Pacific Coast Representative, Owens-Illinois Pacific Coast Co., San Francisco.

Maryland Green Tint and Flint Bottles are of the same high Quality as Maryland Blue.

Maryland BLUE Bottles

Niagara Caustic Potash

Niagara Alkali Company was the first, in this country, to manufacture Caustic Potash. Our many years of development, experience and increasingly expert control have produced a grade of potash which is the finest obtainable here or abroad.

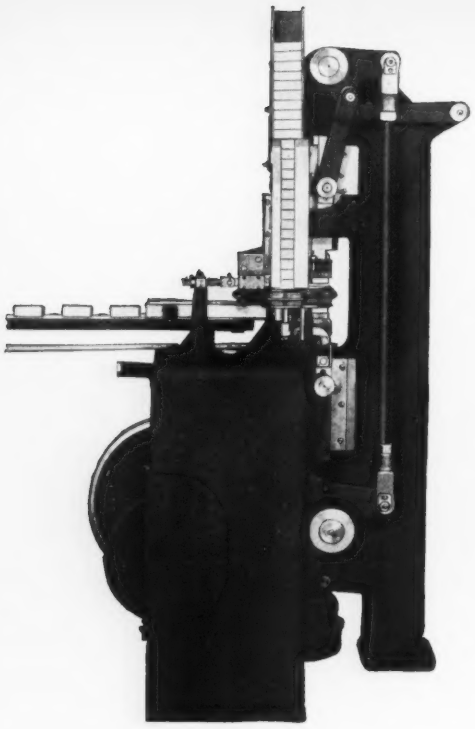
Caustic Potash is difficult to produce in a pure state. For a safe, consistently excellent quality, specify *Niagara*.

SOLID, FLAKE OR
LIQUID FORM

NIAGARA ALKALI COMPANY

Associated with Electro Bleaching Gas Co.,
Pioneer Manufacturers of Liquid Chlorine

9 East 41st Street, New York, N. Y.



TYPE ET

"AVOID MARRED CAKES"

with the

JONES NEW TOGGLE OPERATED PRESS

Brine and other lubricants discolor soap cakes. Avoid this with the JONES TOGGLE PRESS which operates without pressing lubricants on most soaps.

WHY run so much soap thru the plodder and press a second time because of defects caused by old-style feeding devices, or by soap adhering to the dies, when the Jones Toggle Operated Press with the new feeding device will save that expense?

THE new feeding mechanism does not mar the blanks before they go into the dies and after which, the long—very long—time the blank is held under pressure makes its substance cohere so perfectly there is no tendency for particles to adhere to the dies or box.

SAVE the cost of inspection and reworking—it's greater than most people realize in these competitive days—by using the Jones Toggle Operated Toilet Soap Press and also do

FAR BETTER PRESSING

R. A. JONES & COMPANY, Inc.

P. O. Box 485 Cincinnati, Ohio

Makers of the Stardardized Multiple Inserting CONSTANT MOTION CARTONER, the Standard Cartoning Machine of the world.

NRA MEMBER U.S. WE DO OUR PART

SOAP

Volume Ten **Number Three**

EDITORIAL

HEARINGS before the Senate Finance Committee on the proposed excise tax on coconut and sesame oils are just about completed. From sources close to the picture in Washington, we understand that certain of the Senators on the committee have had rather definite ideas on this proposed tax for some time past. We are told that a high tax on coconut and sesame oils alone is held to be illogical and punitive, and that a much smaller excise tax on all imported oils is in the minds of the Committee. This latter figure is variously reported from one cent per pound up to two-and-a-half cents. Irrespective of the size of the tax, there seems to be a conviction about that some kind of an excise tax is going to be adopted.

Two meetings of soap people and other consumers have been held in Washington in organizing the fight against the tax. The brunt of the battle, however, has as usual been borne by a comparative few. Too many soap makers appear confident that this tax, like other proposed taxes and tariffs of the past, will die of its own accord. They apparently feel that no proposal as drastic as a five-cent tax could receive serious consideration. As it has already passed the House, we wonder if they believe it might not now pass the Senate. Those who have been sitting on the sidelines can still enter the fight by protesting to their Senators and having all their raw material suppliers do likewise. It is to be borne in mind that a protest from a small business frequently impresses members of Congress more favorably than those from the larger organizations.

On the size of the tax as determined by the Senate Finance Committee,—assuming that they will not accept the five-cent figure,—should hinge the continuation of the fight by consuming interests. Based on average tallow market conditions over a period of years, a tax of one-cent per pound should be adequate, whether this tax applies to coconut and sesame, or to all imported oils. This would give the renderers a protection of twenty-five per cent in a four-cent tallow market. It would put the price of soap up considerably, but it would not hamstring certain sections of the soap industry as a five-cent coconut tax would do. Anything materially over one-cent, however, is excessive under present conditions and most certainly cannot be accepted without a further fight.

The tax, along with the rest of the Revenue Bill, will have to go to conference after the Finance Committee is through with it. It is still not too late to protest to Washington by those soap makers who thus far have not done so. If there must be a tax, and we feel that one is apparently inevitable, it should be within the bounds of reason, which most certainly does not mean one hundred or two hundred

per cent. Furthermore, it should apply to all imported oils and not just to coconut.

—o—

AS might have been expected, a sharp advance in prices for domestic oils and fats has taken place during the past few weeks. At the same time, little change has occurred in spot prices for imported oils. The proposed excise tax on coconut oil has, of course, been the prime factor behind the higher figures for domestic products. The strange thing, however, lies in the absence of interest in palm, palm kernel, and other soap oils. From this, we would judge, that the trade is quite certain that any excise tax which finally becomes law will embrace not only coconut oil, but all other imported oils as well.

—o—

THAT the NRA has raised costs materially in the soap industry without as yet showing any apparent compensating gain in demand or profits, is the comment of the president of one of the largest American soap companies in his annual report to stockholders. Nevertheless, it is the expressed intention of this company to continue to do its full part in the recovery process, bridging over the gap until such time as increased purchasing power shall make itself felt to a greater extent.

—o—

A GENERAL halt has been called for the time being in the formulation of trade practice codes for various branches of the soap industry. This is likewise true in other industries. The reason lies in a general order issued last month by the NRA that until such time as an investigation of the effects of codes on prices can be made, there shall be no further consideration of code provisions which in any way affect prices. It is understood that something akin to a deluge from all parts of the country has descended upon Congress in the form of protests against higher prices attributable to various and sundry codes. This supposedly has made its way to General Johnson by no other route than through the White House. Thus a halt is called on trade practice codes. The various groups of the soap industry are indeed wise that they do not press their supplementary codes further at present. At the same time, if trade practice codes do not permit of the maintenance of an orderly price structure, of what benefit can they be in aiding industry to pay higher wages?

—o—

A GENERAL meeting of code authorities and committees of all industries under the NRA in Washington early this month set the stage for firing the first gun in the campaign to reduce working hours still further. That the President is aiming at a general thirty or thirty-two-hour week seems quite evident. When we consider that not so many moons ago the average soap industry workweek was around fifty hours, there can be no wonder that the thought of thirty hours per week is somewhat startling.

—o—

OUR sympathies for a palpable imitator of an established article have always been few. We can see little difference between attempting to steal a market by imitating product and package, and attempting to pick a man's pocket. And yet this type of commercial pocket-picking continues to flourish. The imitation of successful, and usually widely advertised products goes merrily on. Once in a while, an imitator is given a setback in the courts, but there always seem to be a dozen others to spring up in his place. It has always been something of a wonder to us how there can be so much legal hair-splitting in these cases, and so many technicalities to hide behind.

—o—

IN an address on the floor of the House of Representatives in Washington recently, a Representative from Pennsylvania made the surprising discovery that the price of soap has remained practically constant through the depression. Too bad the soap industry has failed to make this same discovery,—for there are still a lot of people in the soap business who are not aware of this, particularly people in the sales departments.

—o—

AMONG the potash soap specialties, the price situation shows several rather soft spots. This seems to be one branch of the trade that needs a little stiffening of the backbone more than any other, except perhaps soap powders. With still shorter hours and higher labor costs looming, plus a higher oil market,—well, may be the dawn will break soon.

A Coconut Oil Tax— . . . . or What?

IF the proposed excise tax on coconut oil, which has already passed the House of Representatives, becomes law . . . then what? What will be the effects on the soap industry? What will the industry do to avoid the penalties which this tax will bring? What will be the effects on the raw material markets? These and numerous other questions were asked of various and sundry soap manufacturers, oil and fat traders, and others. There were almost as many different views on the subject as there were persons questioned. Almost everybody seemed to have rather well defined ideas as to just what is going to happen.

That the tax will not pass the Senate or become law was the rather positive opinion of several factors in the trade. They see the tax removed from the bill in the Senate Finance Committee, or modified to apply only to edible oil, or being defeated on the floor of the Senate. They seem to feel that the storm of protest has become so great that the Senate cannot afford to ignore it by accepting the tax. The fact that a real vote on the floor of the House was never taken, but that the tax was passed with the rest of the Revenue Bill under gag rule, gives rise to the belief that the Senate will demand this tax be subjected to debate if it succeeds in passing the Finance Committee. Those who take this view state that the tax never actually had a majority in the House and that it does not have a majority in the Senate. On this basis, they foresee its defeat.

From several sources who, we believe, have rather close contact with Washington and should be in a position to know what is most likely to happen, comes the word that some kind of an excise tax on coconut oil is going to be adopted by the Senate Finance Committee and that it will pass the Senate. They have it that the tax will be cut to 2½c per pound or 2c, but that it *will be* adopted, and furthermore, in addition to coconut and sesame oils, will be extended to include palm oil, palm kernel oil, soya bean oil, and other imported oils. All these beliefs are supposedly based on a closeness to the inner workings of politics in the Senate. At any rate, those who are of the opinion that some kind of tax will be adopted appear to be close to the picture in Washington.

For a month past, soap makers who use a considerable proportion of coconut oil have been going on the premise that the tax will become law. Some plants have been running two shifts and others three saponifying coconut oil and putting the soap in storage. This is on the basis that the tax will be an excise tax and will cover first processing only, and will not apply to stocks of finished soap. In this connection, an interesting point is raised, when in the process of saponification does coconut oil cease to be oil and become soap? If merely a small percentage of caustic soda or potash are added to each tank of coconut oil, can it be classified as soap, or par-

tially manufactured soap, or is it still oil until finished?

That means for circumventing the tax and avoiding its penalties have been running through the mind of every soap maker is to be expected. Quite apparently all are looking to other oils wherever possible with a view of cutting down proportions of coconut oil. Already, we understand, toilet soap manufacturers are reducing sharply the proportion of coconut oil going into finished soaps. Where a turn to palm oil, palm kernel, or other imported oils is contemplated, the situation is further complicated by the possibility that these oils may also be the objects of an excise tax. This, of course, would tend to concentrate the demand for soap fat on the tallow market. But, as one old-timer in the oil and fat business pointed out, where is the tallow to come from?

From the angle of the liquid soap manufacturer, the substitution of other oils for coconut is more of a problem than it is for the maker of most soda soaps. Coconut oil is easy to handle and has for many years been the chief raw material for liquid soap. With the trade confronted with the use of palm kernel oil which is the nearest to coconut in properties, and palm oil, olive oil, corn oil, soya bean oil, peanut oil, and others, a number of genuine soap making problems arise which might seriously hamper the small manufacturer with limited technical knowledge and plant facilities.

Small Soap Maker at Disadvantage

SPECULATION on the effects of the tax, if adopted, among individual soap makers reveals some interesting sidelights. One manufacturer stated that in his opinion the tallow market would go to six cents if the coconut tax were passed at 2½c. He foresees a rush into the tallow market and stocks woefully inadequate to supply demand. This would force demand over into other products, notably palm oil, with a general equalization in prices which would make coconut oil by comparison less expensive in spite of the tax. The enforced use of palm oil would handicap the small soaper because he would be unable to bleach it properly for use in white soaps, whereas the large soap makers with their more extensive technical facilities would have no difficulty in this. In fact, he sees the small soap maker at a disadvantage all the way through because of limited knowledge and plant flexibility. One of the most unusual points made by this soaper was that it might be a good thing if coconut oil usage in soaps were materially reduced. He referred to numerous complaints from field staffs of harshness and chapping which he laid to the ever increasing use of coconut oil in toilet soaps. He stated that generally all-around better toilet soaps would be marketed if the proportion of coconut oil were cut down to ten per cent in place of forty and fifty as is now common. At the same time, however, he admitted that there was far from a sufficient supply of tallow to take care of a shift of this kind even though some of the demand were shared by other oils.

One well-known mid-west soap manufacturer, interviewed in New York, although very emphatically opposed to the tax and predicting all kinds of trouble for certain classes of soap makers, consoled himself with the fact that "at least all soapers will be in the same boat." He seemed much more perturbed by the competitive situation in certain soap products than he did about the tax. No matter what happens to the tax, he believes that the soap industry will adjust its affairs so that it will do business and make a profit. He sees a shifting about in raw materials and higher prices. He guessed that tallow should go to about five cents and that the consumption of coconut oil would not be cut down as much as was generally predicted. He sees the price of bulk chip soaps taking the greatest advance in price. As for the hydrogenated fish oil soaps, which of necessity must contain a goodly proportion of coconut oil, he sees them still using coconut oil as in the past. For potash soaps and shampoos, he believed that a swing, temporarily at least, to corn oil, palm oil, and others would follow the tax. He was quite amused by the fact that the greatest burden of higher soap prices would be borne by the farmers of the Middle West, with its hard water, and that this same farm area has been the cradle of agitation for high taxes on imported oils and fats. He belittled the possibilities of foreign competition, stating that if it were found that this tax opened the door too wide to foreign soaps, adequate tariff readjustments would soon be forthcoming in Washington.

Soap Contracts May Cause Trouble

A PROMINENT eastern manufacturer of potash soaps was called upon for his views. He likewise was more inclined to damn his competition than the tax. Although admitting that the tax would cause great inconvenience to him, he expressed a willingness to put up with it because he sees the possibility of severely hampering a number of his small competitors who, he stated, have been demoralizing the soap market. He stated that many of these smaller firms had taken contracts for coconut oil soaps at low prices and that they were not covered in the eventuality of an excise tax or tariff. He sees them "taking it on the chin." He does not believe that any potash soap manufacturer with adequate technical brains and plant equipment will be severely injured. He sees the consumption of coconut oil cut down from 600,000,000 pounds per year to one-third of this quantity unless the tax is extended to other oils. He sees trouble and inconvenience in readjusting manufacturing operations. He admitted that his plant had been running at full capacity on coconut oil for some time past in anticipation of the tax.

When asked if he thought there would be as wide a shift away from coconut oil in liquid soaps as in others, he stated that it would probably not be. There would be some turn to palm oil and palm kernel, and a wider use of olive oil and possibly castor oil, but coconut would likely continue to be the chief raw material. He referred back a few years and said that "liquid soap makers used to pay seven and eight cents for coconut oil and they sold their soap at a profit, so why not today?" He stated

that regular toilet soaps used to contain eight and ten per cent of coconut oil some years ago, and that they were satisfactory soaps. He ended by criticizing severely the technical set-up of the liquid soap industry in the country today, and said that tax or no tax, the business would kill itself off if it continued to gravitate into the hands of firms indaequately financed and without any real technical supervision.

From a prominent oil importer who has usually been right in his predictions, comes the word that the tax in present form is not likely to pass the Senate. In its stead, he held, there is the likelihood of an excise tax on all oils and fats originating outside of continental United States. He threw still another light on the picture when he repeated some of the comments which had come to him from foreign producers and shippers of oils. They are astonished, it seems, at a government which will permit the business of a well-established industry to be jeopardized by possible foreign competition. They see the door of the United States opened wide to European and Canadian soap manufacturers, unhampered as they would be without any tax on their coconut oil and with only 15 and 25 per cent duties to protect the American manufacturer.

Tallow Likely Over Four Cents

FROM rendering sources, comment on the coconut oil tax is rather meagre. The renderers are strongly behind the five-cent tax, although it is admitted that a tax of this size is not necessary to give them protection. Apparently, a four to five-cent market for tallow is considered satisfactory. Anything higher is so much the better for them. If they get a two-cent tax on coconut, it will be probably all they really expect. If such a tax is extended to other oils, they will be more than pleased. An attempt to find out exactly the figure below which the average renderer cannot do business at a decent profit leaves the impression that anything over four cents would under present conditions be considered an adequate price.

From another well-known factor in the oil business comes the opinion that unquestionably there is going to be a tax on coconut oil, but that this tax will have to be extended, and will be, to palm, palm kernel, and other oils. He believes that the tax will not be five cents when the Senate Finance Committee finishes with the bill, but will be anything between one cent and two. This tax, if it reaches out to all imported oils, will not disturb the market to the extent which the high tax on coconut oil alone would do. It would mean, of course, a considerable advance in tallow, a move up to 4c or 4½c. The renderers, he holds, would keep tallow about ¼c under coconut oil and thus keep the preference of demand for tallow up to the limit of available tallow stocks. This would tend to bring an expansion in rendering operations and some of the several hundred rendering plants, closed during the past few years, would probably resume.

From Canada comes word that soap makers there are not getting excited over the possibilities of increasing their business in the United States, or that the Canadian plants of American manufacturers expect to carry the manufacturing burden for their American owners. It is believed first of all that the tax in its original form will not become law, and when any oil and fat tax does pass, it will be so modified as to change completely the complexion of the original coconut tax situation. Furthermore, any opportunity for large scale manufacture in Canada for shipment to the American market at present rates of duty would be short lived, it is believed, and a change in tariff to compensate for excise taxes would follow rather closely.

To summarize general opinion, there is the likelihood of a tax of something up to two cents on all imported oils and fats. This tax will boost the tallow market 1c to 1½c. Soap prices should advance twenty to thirty per cent, according to type. The tallow market will probably establish itself at prices ¼c to ⅜c under coconut oil figures. The present proportion of coconut, palm, olive and other imported oils in soap will not be changed materially.

—o—

The U. S. Bureau of the Census announces that the factory production of fats and oils in United States (exclusive of refined oils and derivatives) during the three-month period ended December 31, 1933, was as follows: Vegetable oils, 812,634,318 pounds; fish oils, 43,936,340 pounds: animal fats, 584,470,549 pounds, and greases, 85,801,467 pounds—a total of 1,526,842,674 pounds. Of the several kinds of fats and oils, the largest production, 519,500,736 pounds, appears for cottonseed oil. Next in order is lard with 415,793,853 pounds; tallow with 167,343,899 pounds, linseed oil with 133,905,936 pounds; coconut oil with 98,578,971 pounds; corn oil with 34,662,371 pounds; castor oil with 11,068,800 pounds; and soybean oil with 7,499,999 pounds. Factory and warehouse stocks for a number of specific items are given in the following table of December 31, 1933:

Coconut, or copra, crude	182,822,292
Corn, crude	23,392,115
Soybean, crude	10,805,905
Olive, inedible	3,005,011
Sulphur oil or olive foots	10,856,623
Palm-kernel, crude	11,247,909
Palm	105,781,600
Tallow, inedible	255,928,805
White grease	29,769,007
Yellow grease	17,204,761
Brown grease	17,291,947
Glycerin, crude, 80 per cent basis	8,139,269
Glycerin, dynamite	11,119,511
Glycerin, chemically pure	7,143,896
Acidulated soap stock	18,941,955
Miscellaneous soap stock	69,420

—o—

The Annual Report on Essential Oils and Perfumes published by Schimmel & Co., Miltitz, Germany, has just appeared in the 1932 edition. It is being distributed in United States by Fritzsche Bros., New York, sale agents for Schimmel & Co. in United States. As usual it contains a substanital amount of commercial and scientific information, of great value, on a host of essential oils.

MUNN
IS AN "M" ROSIN WITH A PEDIGREE!

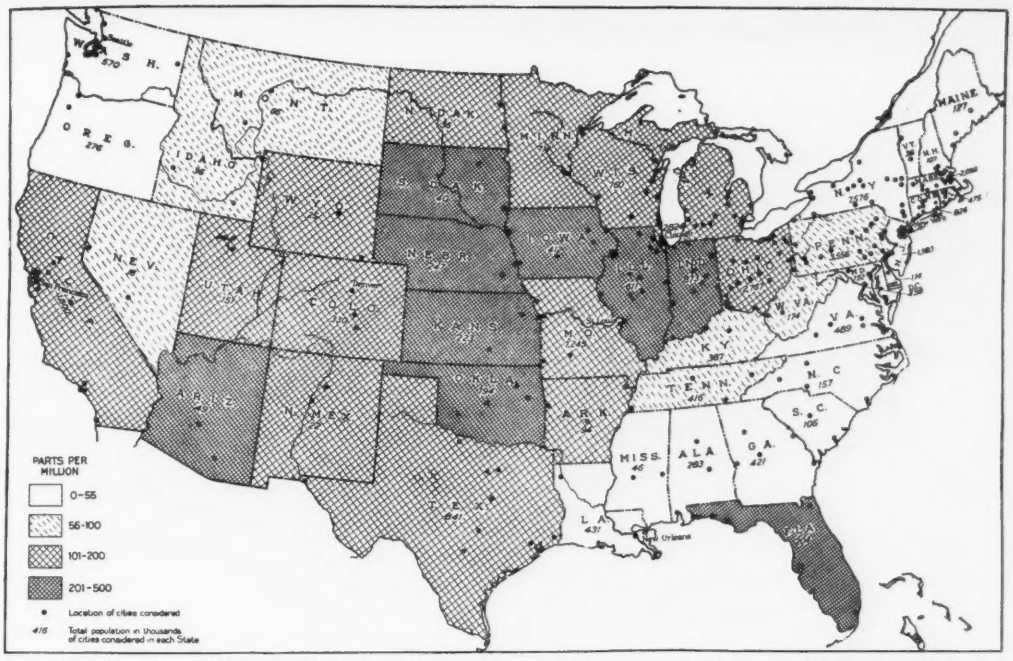
WOULD you buy a dog just because his color pleases you? Wouldn't you want to know something about his breeding, his pedigree? It's the same with rosins—color is clearly visible, but what of its *chemical* properties?

If you use an "M" Rosin it will pay you to specify Munn, for we can assure you it is chemically correct. Munn, because it is produced scientifically, with accurate laboratory control at all times, assures uniformity in your processing as well as in the finished product. Munn has a constant saponification value...it never varies...and therefore your soap never varies.

Producers also of Newport Steam Distilled Turpentine, Dipentene and Pine Oils

GENERAL NAVAL STORES COMPANY, INC.

Address Main Office: *230 Park Avenue, New York City* NEWPORT Plants: *De Quincy, La.; Pensacola, Fla.; Bay Minnette, Ala.*



AVERAGE HARDNESS, BY STATES, OF WATER FURNISHED BY PUBLIC SUPPLY SYSTEMS IN OVER 500 CITIES IN THE UNITED STATES AND POPULATION, BY STATES, OF THE CITIES CONSIDERED.
FROM U. S. GEOLOGICAL SURVEY WATER-SUPPLY PAPER 496

Hard Water Map of the United States

Soap Consumption In Hard Water Districts

Soap Consumed Per Capita Varies Directly with Hardness of Water in Different Localities, Survey in Mid-West Cities Discloses

AS the American soap industry watches with keen interest the introduction and marketing of the newer non-saponaceous detergents, particularly those soap substitutes derived from fatty alcohol sulfates and from various sulfonated materials, a study of household soap consumption in the hard-water districts of the Middle West discloses an interesting picture for the soap manufacturer. As might be expected, the consumption of soap per capita is considerably greater where the degree of water hardness is higher. It is in these hard-water regions that the manufacturers of the newer soap-substitutes apparently see their greatest market owing to the resistance of these products to the ill effects of hard water because of the solubility and detergent value of their lime and magnesia salts. The large waste of soap in hard water represents a compensating factor to the higher prices at which the new detergents must be sold. It is obvious that the harder the water in any locality, the greater are the chances for the sale of the newer soap-substitutes as well as the general run of water softeners and soap builders containing trisodium phosphate, metasilicate and various sodas.

The facts on soap consumption in the hard-water districts, which were gathered by Dr. Hersel Wendell Hudson and reported in the January issue of *Water Works Engineering*, are given here in part. The primary purpose of the study was to measure the value of water quality with respect to its effect on soap consumption in the home.

To obtain information concerning this problem, market surveys of retail soap sales were made in Chicago Heights, Bloomington and Champaign-Urbana, Ill., and Superior, Wis. These cities are comparable in size and are supplied with different types of water, including naturally soft, municipally softened, medium hard and very hard waters.

Soaps and soap products of all kinds sold at retail in the various cities were included in the data. Commercial

laundries were not included in the study, because most of the commercial laundry work in Chicago Heights goes out of town, while most of the laundries in Champaign-Urbana have water softeners. Industrial use of soap was not included, because the extent and type of industrial development varies materially from city to city. Some industries use large amounts of soap, while others use practically none.

The personal interview method was used to collect all data on soap sales, because a high percentage of returns is considered essential to the success of the study. The retail survey has proved to be the only practicable means of getting enough data on soap used in the home to be significant. The original data obtained by the surveys, if used without correction, would not give accurate results. Corrections have been made, therefore, for such inaccuracies as incompleteness of data, the sale of soap to the surrounding trade territory, the use of water from water softeners and cisterns in hard water cities and differences between the type of water used in a city and in its surrounding trade territory.

The most important source of error is the trade territory supplied by the various cities. Reilly's Law of retail gravitation seems to offer the best solution for this problem. According to that law, "Two cities attract retail trade from any intermediate city or town in the vicinity of the breaking point, approximately in direct proportion to the population of the two cities and in inverse proportion to the square of the distance from these two cities to the intermediate town."

The data obtained from the field surveys have been summarized in Table 1. Table 2 presents the refined data in comparable form after corrections have been made for the various sources of error mentioned above.

TABLE 1. TOTAL SOAP SALES IN THE FOUR CITIES

City	Annual Soap Sales, Pounds	Annual Soap Sales, Dollars
Superior, Wis.	1,530,314	$196,133
Bloomington, Ill.	1,517,658	215,528
Champaign-Urbana, Ill.	2,093,881	307,732
Chicago Heights, Ill.	1,009,503	159,910

Superior, Wis., uses 29.2 pounds, or $3.75 worth, of soap per capita annually. Even with its relatively very soft water, 45 p.p.m. (parts per million) hardness, a considerable quantity of soap is required to remove dirt and grease. Water alone will not do the work. If it were possible for a city to obtain a water supply of zero hardness, it would still use almost as much soap as does Superior, Wis.

Taking Superior as a base for comparison, it may be seen from the data presented in Table 2 that the excess soap consumption for Bloomington is 2.9 pounds per capita per annum. The cost of this excess is 73 cents. The annual per capita excess of Champaign-Urbana is 10.66 pounds, or $2.18. Chicago Heights, with its water supply of 555 p.p.m. hardness, uses annually 16.55 pounds, or $3.75 worth, more soap per capita than does Superior.

TABLE 2. PER CAPITA SOAP CONSUMPTION

City	Total Hardness of Water Supply, p.p.m.	Annual per Capita Soap Consumption Pounds	Annual Cost of Soap per Capita, Dollars
Superior, Wis.	45	29.23	$3.75
Bloomington, Ill.	70	32.13	4.48
Champaign-Urbana, Ill.	298	39.89	5.93
Chicago Heights, Ill.	555	45.78	7.50

The excess soap usage for Bloomington, Champaign-Urbana and Chicago Heights, expressed in percentage of total soap consumption for each city, is 9 per cent, 26.7 per cent and 36 per cent respectively. This excess, expressed in terms of value percentage, amounts to 16.5 per cent, 36.8 per cent and 50 per cent for the various cities in the order named. The greater percentage excess in value than by weight seems to be due primarily to the use of more expensive soaps and soap compounds in cities supplied with hard water.

The significance of the excess soap requirements of hard water may be brought out more clearly by stating the total excess for each city. For Bloomington, with her present water supply of 70 p.p.m. hardness, the total annual excess soap requirement is 40.4 tons, or $22,942. Champaign-Urbana, with her water of medium hardness, is using annually 216.6 tons, or $88,713 worth, of soap more than would be required with water like that of the Superior supply. Chicago Heights, with a population of little more than half that of Champaign-Urbana, but having water almost twice as hard, uses 184.7 tons, or $83,689 worth, more soap annually than would be necessary with soft water. It is calculated from the data at hand at Bloomington's excess soap usage, before she obtained her present supply of relatively soft water, must have been approximately 323 tons, or $162,000 annually.

Cost of Soft Water

IN those sections of the country where relatively hard water prevails, there are various possible ways of obtaining soft water. Which of these devices, or what combination of them, can best solve the problem of scarcity of the quality of softness in water under a given set of conditions follows the principle of relative costs. In other words, in order to be able to draw conclusions concerning the economy of soft water, it is necessary to know the cost of obtaining it, as well as the advantages derived from it.

Not all of the various methods of obtaining soft water are available to any of the four trading centers considered. Superior has no interest in a better water supply than she now has, but the other three cities have possibilities of economies by one or more methods. Costs of obtaining soft water for Bloomington by various methods are presented in Table 3. Like information is given for Champaign-Urbana in Table 4 and for Chicago Heights in Table 5.

It will be noted by reference to Tables 3, 4 and 5, that cistern water is the most expensive in every case, with regard to both total investment and annual cost.

Practically the entire cost of cistern water consists of interest and depreciation. Operating expense is so small that it has not been included in the data.

Household water softeners cost one-half as much as cisterns, but in the case of the former there is an additional operating cost which consists primarily of chemicals, which brings the annual cost up to more nearly that of cistern water. This method of obtaining soft water rates second highest in total investment and annual cost for all three cities. A municipal water softener furnishes the most economical method of obtaining soft water for Chicago Heights and Champaign-Urbana. This method has the advantage over all others with respect to both investment and annual costs.

TABLE 3. COST OF OBTAINING SOFT WATER FOR BLOOMINGTON, ILLINOIS, BY THE VARIOUS METHODS AVAILABLE

Method	Total Investment	Total Annual Cost	Annual per Capita Cost
Soap[1]	.....	$22,942	$ .73
Soap[2]	.....	162,300	5.19
Cisterns	$3,379,600	337,960[5]	10.93
Household water softeners	1,689,800	295,315	9.56
Storage basin[3]	1,191,808	112,197	3.59
Municipal water softener[4]	26,635	10,417	.33
Sorage basin and softener, com	1,218,442	122,614	3.92

[1]Excess with water of 70 p.p.m. hardness.
[2]Calculated excess with water of 800 p.p.m. hardness.
[3]For obtaining water of 250 p.p.m. hardness.
[4]For reducing hardness from 250 p.p.m. to 75 p.p.m. hardness. The additional cost of reducing hardness from 75 p.p.m. to 45 p.p.m. would be $1,488 per annum, or 4.7 cents per capita annually.
[5]Annual cost for cisterns includes interest at 6% and depreciation at 4%.

TABLE 4. COST OF OBTAINING SOFT WATER FOR CHAMPAIGN-URBANA, ILLINOIS, BY THE VARIOUS METHODS AVAILABLE

Method	Total Investment	Total Annual Cost	Annual per Capita Cost
Soap	.....	$88,713	$2.18
Cisterns	$3,774,000	377,400[1]	11.30
Household water softeners	1,887,000	259,462	7.77
Municipal water softener	250,000-300,000	38,000	.93

[1]Annual cost for cisterns includes interest at 6% and depreciation at 4%.

TABLE 5. COST OF OBTAINING SOFT WATER FOR CHICAGO HEIGHTS, ILLINOIS, BY THE VARIOUS METHODS AVAILABLE

Method	Total Investment	Total Annual Cost	Annual per Capita Cost
Soap	.....	$83,689	$3.75
Cisterns	$2,022,800	202,280[1]	9.06
Household water softeners	1,011,400	176,995	7.93
Lake Mich. water supply	1,816,000	171,907	7.70
Municipal water softener	150,000	58,225	2.61

[1]Annual cost for cisterns includes interest at 6% and depreciation at 4%.

Cost Exceeds Soap Savings

BLOOMINGTON'S soft water supply has made possible a saving in soap by those families formerly using hard water. Soft water supplies for Champaign-Urbana and Chicago Heights would make possible similar savings in soaps for residents of those cities now using hard water. If the entire population used hard water, the soft water supply would produce the total soap savings and net gains indicated in Table 6. That table also shows the per capita net gain produced by soft water for those individuals formerly using hard water in the various cities.

That part of the population using water from cisterns and water softeners is now saving soap but at a cost that is *greater than the value of the soap saved.* A municipal water softener can save those people future operating expense and upkeep. The original investment in cisterns and household water softeners, however, can not be retrieved.

TABLE 6. NET GAIN FROM SOFT WATER. SOAP CONSUMPTION OF SUPERIOR, WISCONSIN, TAKEN AS BASE

City	Total Annual Cost of Soft Water	Soap Saved by Soft Water	Total Annual Net Gain	Annual per Capita Net Gain
Bloomington, Ill	$122,614[1]	$162,300	$39,686	$1.37
Champaign-Urbana, Ill	38,000	88,713	50,713	1.25
Chicago Heights, Ill	58,225	83,689	25,464	1.14

[1] Calculated from former supply of hard water.

It is evident from data presented that the part of the family budget devoted to cleanliness is materially affected by hardness of water. That effect is felt to the extent of $88,700 per annum by the population of Champaign-Urbana, while a like burden on the householders of Chicago Heights is only $5,000 less. In other words, the per capita excess soap usage for Chicago Heights is almost twice that for Champaign-Urbana, while a similar relation exists between the hardness of the water supplies of the two communities. Thus, the household soap bill increases as the hardness of the water with which soap is used increases.

From the data presented it seems safe to generalize that almost any city, supplied with surface water requiring filtration and containing enough mineral matter to be at all noticeable, can well afford water softening. A similar generalization concerning cities supplied with ground water would hardly be safe, because of local factors of water supply and construction costs that might enter in. The following equation will show the degree of hardness necessary in any particular water supply in order that the economy in soap obtainable by soft water may pay for the cost of softening:

$$X = \frac{C - 75d + 75F}{F - d}$$

X = hardness of water supply in p.p.m., the softening of which will be paid for in soap economy alone.
75 = demonstrated attainable hardness of water in p.p.m. from municipal water softening plants.
F = soap waste per capita per year per p.p.m. hardness.
C = capital overhead charges, including superintendence, per capita per year.
D = cost of chemicals per capita per year per p.p.m. hardness.

This equation applied to data for Champaign-Urbana shows that even if their water supply tested only 145 p.p.m. hardness, a municipal water softener that would soften the water to 75 p.p.m. would save enough in soap for home use alone to pay for itself. The economy point of hardness for the Chicago Heights supply would be 200 p.p.m., while for Bloomington, with its higher cost plant, it would be approximately 600 p.p.m.

Any attempt to evaluate the findings of this investigation must take the form of estimations of its effects upon certain economic groups. If the interest expressed in the outcome during its preparation can be accepted as an indication of those that may be affected by the results, there must be included soap manufacturers, water supply experts, public officials, manufacturers of household water softeners and private citizens. Although the chief interest has been shown through the hard water sections of the country, the extent of that interest has been indi-

(*Turn to Page* 53)

A INDUSOIL A

NEW FATTY ACID

A low-priced substitute for Commercial Red Oil. Never before manufactured in the United States.

In view of advancing commodity prices, why not standardize on a product less subject to market fluctuations?

(Raw material controlled by us)

Chemical and physical analyses and additional data together with sample furnished on request.

INDUSTRIAL CHEMICAL SALES CO., INC.

INDUSTRIAL CHEMICAL SALES CO., INC.
230 Park Ave., New York City

Please send me a .... oz. sample and chemical analysis of INDUSOIL.

Name .....

Address .....

230 Park Ave.
NEW YORK CITY

205 W. Wacker Dr.
CHICAGO, ILL.

Sulfated Fatty Alcohols

Their Newer Developments and Commercial Possibilities in the Field of Soap Substitutes

By Cornelia A. Tyler, Ph. D.

A FEW years ago Drs. Schrauth and Ackermann arrived in the United States from Germany with two small bottles of white semi-crystalline materials. With these they hoped to revolutionize the field of detergents. Soap has been the outstanding detergent for so long that a serious threat to its supremacy is of first importance. The new compounds are true soap substitutes, possessing the characteristic cleansing action of soap with certain additional advantages.

These new compounds are commonly referred to as sulfonated fatty alcohols. The name is suggestive of the process of manufacture, rather than of their chemical composition. They are not sulfonates, but sulfuric esters of the higher fatty alcohols. The linkage is through oxygen rather than through the sulfur atom. To illustrate with a simple ester, the reaction between acetic acid and ethyl alcohol gives ethyl acetate. Similarly, sulfuric acid reacts with a high molecular weight alcohol to give the alcohol sulfate. Since sulfuric acid is dibasic, one acid hydrogen remains after esterification. This is replaced by sodium, giving the sodium salt.

$$CH_3COOH + C_2H_5OH \rightarrow CH_3COOC_2H_5 + H_2O$$

Likewise

$$H_2SO_4 \text{ or } HO\,SO_2OH + ROH \rightarrow ROSO_2OH + H_2O$$
$$ROSO_2OH + NaOH \rightarrow ROSO_2ONa + H_2O$$

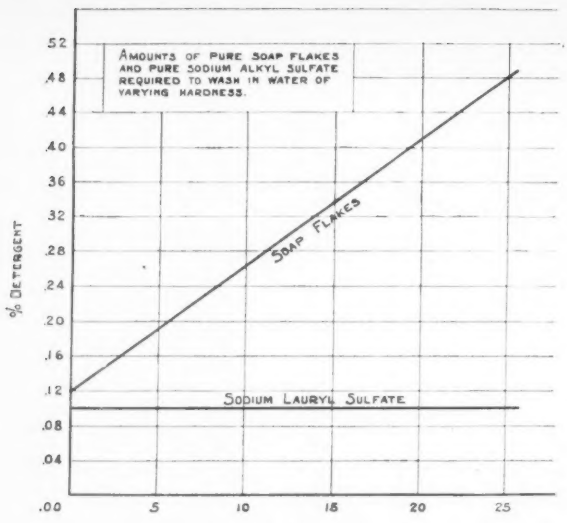
The final formula may therefore be given as $ROSO_2ONa$, in which R is a suitable aliphatic hydrocarbon. If R happened to be the lauryl group, the chemical name of the derivative would be sodium lauryl sulfate.

During the World War when Germany was hemmed in on all sides, her supply of fats became painfully low. Her chemists were confronted with the problem of finding a detergent which could be made without fats. Although no really good detergent was produced at the time, the ideas stimulated by war-time needs continued to develop and finally resulted in a satisfactory product. The problem was attacked from the theoretical point of view of relating the detergency of soap to its chemical structure, and the hard-water and acid resistance of the sulfonated oils to their chemical structure. It was believed that a compound having the chemical nature of each would also combine their physical characteristics. The difficulty was to attach the sulfate group to the end carbon of the hydrocarbon chain. This would preserve the straight chain formula of soap and at the same time introduce the sulfate group which confers on sulfonated oils certain desirable properties. Such a reaction can be readily brought about if the hydrocarbon is in the form of an alcohol. But the naturally occurring raw materials are fatty acids and esters. These had never been reduced to alcohols except by a very expensive and highly impractical process. A method for accomplishing this was developed by Schrauth of the Deutsch Hydrierwerke A-G, who applied for patents covering his invention in 1928. Normann, of H. Th. Boehme A.-G., developed a similar process at about the same time. In the United States, experimenters have obtained comparable results, but without adapting their methods to plant-scale production, which followed Schrauth's discovery almost immediately.

In practice, the —COOH group is changed to —CH—$_2$OH, so that it may be called a hydrogenation process. Hydrogenation is carried out at high pressures and temperatures with the aid of suitable catalysts such as copper chromate, zinc-copper chromate, nickel-copper zincate, or certain salts of molybdic acid. The effect of temperature at the high pressures used is very definite. Up to about 325° C., alcohols are formed. Above 400° C. the alcohols are completely reduced to hydrocarbons. The raw materials used are the fatty acids, esters and glycerides which occur in coconut oil, cottonseed oil, corn oil or similar vegetable and animal oils. After hydrogenation, the resulting alcohols are generally fractionally distilled. Once obtained, the alcohols may be esterified with sulfuric acid with relative ease, by a number of procedures. Several patents have been issued covering this step. The final product is the sodium salt. In the discussion which follows, the term "alcohol sulfates" will be used for the sake of brevity. It is to be understood that the sodium salt of the fatty alcohol sulfates is meant.

Properties

THE alcohol sulfates vary in the length of their C— chains from C_{10} to C_{18}. Not being highly purified, each product is a mixture covering a limited range, according to the molecular weight of the oil or fat from which they are obtained. The first product marketed was made from the saturated alcohols covering the C_{16} to C_{18} group. Later two other products appeared, one consisting of saturated alcohol sulfates of the range



C_{10} — C_{14}, and the other of unsaturated alcohol sulfates of a C_{16} — C_{18} group. In addition several specialties are made, but the three products mentioned are the more important ones. The change in properties caused by differences in the length of the carbon chain, and by saturation or unsaturation, are analagous to those of the corresponding soaps. The C_{10} — C_{14} product may be considered as sodium lauryl sulfate, as it is made from a technical grade of lauryl alcohol obtained by the hydrogenation of palm kernel or coconut oil. Similarly the unsaturated C_{16} — C_{18} product may be considered as sodium oleyl sulfate, as it is made from technical oleyl alcohol obtained by the hydrogenation of red oil. As it is difficult to esterify oleyl alcohol without some reaction at the double bond, the product is a mixture of the sulfate ester and the sulfonated compound. The saturated C_{16} — C_{18} product may be considered as sodium stearyl sulfate, although it contains stearyl, cetyl, and probably some myristyl groups. It is prepared by sulfating technical stearyl alcohol.

It may be mentioned that the alcohols themselves are of commercial value, chiefly in the perfumery industry. Technical lauryl alcohol appears on the market as "Lorol," technical oleyl alcohol as "Ocenol," and technical stearyl alcohol as "Lanette wax."

The wetting-out and emulsifying properties of the alcohol sulfates, as well as their resistance to lime-soaps, are greatest at C_{12} and gradually decrease up to C_{18}. The same relationship holds for solubility in water and stability toward acids. Above C_{18}, the solubility becomes so small as to make such compounds useless. Of the three types of products, sodium lauryl sulfate has excited the greatest interest in this country, as it has the widest range of usefulness. It is very soluble in water, an excellent detergent, and similar to soap in its other physical attributes. Sodium lauryl sulfate and sodium oleyl sulfate resemble each other in properties much more closely than do sodium oleyl sulfate and sodium stearyl sulfate. While sodium oleyl sulfate is a good detergent, it has less wetting power and is less soluble than the lauryl product. The special usefulness of the former is as a detergent in scouring or cleaning greasy materials. The stearyl product is not used as a general detergent but rather in the textile industry as a softening and finishing agent. It is more fatty in nature than the other two products. Instead of replacing soap, it is used as a substitute for special finishing and sulfonated oils.

The lauryl and oleyl sulfates have all the advantages of soap, and apparently none of their disadvantages. Like soap, they are surface active materials. In aqueous solution, they reduce the surface tension of water and concentrate in a film at the interface. They reduce interfacial tension against fats, oils, and suspended matter. This surface-activity accounts for their powerful wetting out and penetrating power, their strong emulsifying and dispersing action. As wetting-out agents, their action is equal to that of soap. For general cleansing and degreasing purposes, it is superior to that of soap.

The alcohol sulfates are stable in acid, neutral, and alkaline media. In acid solution they decompose slowly but at such a low rate that in practical use they appear to be stable. Even when decomposed, the fatty alcohols liberated possess no special disadvantages. In this respect, alcohol sulfates have a decided advantage over soap, since the latter decomposes to give insoluble fatty acids in an acid medium. The sulfated alcohols are stable in alkaline solution but are salted out at concentrations of caustic soda approaching mercerizing strength. The sodium salts are neutral in reaction. At a concentration of 0.1 per cent, the pH of sodium lauryl sulfate solution is about 7.5. Due to their neutral recation, they do not weaken the fibers of wool and silk, even at elevated temperatures. Their solubility varies in accordance with their chemical structure. A twenty per cent solution of sodium lauryl sulfate is easily prepared at room temperature. One to two per cent solutions of sodium oleyl sulfate may be prepared at room temperature, and 15 per cent solutions at 120°F. Sodium stearyl sulfate may be used at temperatures above 120°F. Their relatively high solubility when used at suitable temperatures, enables them to be easily washed out of fabrics so that no after effects are to be feared. The sodium salts are miscible with soap and soluble in soap solutions, so that the two can be used together. The alcohol sulfates are not affected by normal atmospheric conditions, exposure or ageing, nor do they oxidize or become rancid with the accompanying development of objectionable color and odor.

In contrast with soap, the alcohol sulfates are efficient detergents in hard water. Calcium and magnesium are present in practically all natural waters. In the presence of soap, insoluble calcium and magnesium soaps are formed. For water of 15 to 20 grains hardness, which is typical of a considerable portion of the mid-western part of the United States, half of the total soap used is required to soften the water. This means a considerable economic loss. The insoluble curds are slimy and tend to stick to the sides of the vessel and to the materials

(*Turn to Page* 65)

Soap Code Rulings

RULINGS made by the Code Authority of the soap and glycerine manufacturing industry at its March meeting, held March 8 at the Mayflower Hotel in Washington, D. C., are given below. These rulings represent official interpretations of the soap and glycerine code. Questions on the code by firms in the industry should be addressed to the Code Authority, Soap and Glycerine Manufacturing Industry, 386 Fourth Ave., New York.

Selling Below Cost

Question: A certain competitor is apparently selling certain brands of soap at less than it costs to make them. Is such a practice prohibited by the Soap and Glycerine Code?

Answer: Article VI, Paragraph D. Section 3, of the code requires that the Code Authority or the Planning and Fair Practice Agencies established by the code shall make studies in an effort to determine fair and uniform cost finding procedures. The code further provides that "if and when" such cost finding procedures are approved by the President or his authorized representative, *then* sales below cost *as determined by such approved procedures* shall be an unfair method of competition.

Who Are Apprentices?

Question: May we classify as a learner or an apprentice any new worker not engaged in the light task of wrapping, packaging and filling, and pay such worker 36c an hour (90% of the 40c Northern rate) during the first sixty days of employment, provided the total number of such workers does not at any time exceed 5% of the total number of employees in the establishment?

Answer: Only if these new workers in your establishment really are learners in soap or glycerine manufacturing. No person engaged in common labor may at any time be classified as a learner or an apprentice. An employee can only be a "learner" in an occupation in which a period of training is necessary. Article IV, Paragraph A. Section 1, further makes clear that it is only "during the first 60 days of apprenticeship *in the industry*" that learners or apprentices may be paid 90 per cent of the regular minimum rates. Though new in your employment, they cannot be classified as learners or apprentices if they are not *new* in the industry. The same section also requires that the number of such employees who may be paid less than the regular minimum rate shall not exceed 5 per cent of all employees in the establishment.

Wages to Handicapped Workers

Question: We have on our payroll several persons who have grown old in service and whom we would like to retain, but whom we will be forced to let go if we are compelled to pay them the minimum wages specified in the Soap and Glycerine Code. Under the circumstances are we compelled to meet the Code standards of wages?

Answer: Under the Executive Order of the President of the United States, dated February 17, 1934, applicable in a similar way to all other Codes, a person whose earning capacity is limited because of age, physical or mental handicap, or other infirmity, may be employed on *light work* at a wage below the minimum established by the Code of Fair Competition for the Soap and Glycerine Manufacturing Industry, provided the employer does the following:

(1) Obtains from the state authority designated by the United States Department of Labor (usually the state labor commission) a certificate authorizing such person's employment at such wages and for such hours as shall be stated in the certificate.

(2) Files at once with the Code Authority a copy of such certificate.

(3) Files monthly with the Code Authority a list of all such persons employed by him, showing for each employee named (a) the actual wages paid, and (b) the actual hours worked, including the maximum hours worked in any one week, and the maximum hours worked in any one day.

The monthly reports required by paragraph (3) above shall be sent immediately at the close of each calendar month to the Code Authority for the Soap and Glycerine Manufacturing Industry, 386 Fourth Avenue, New York, N. Y.

Question: I should like to have you inform me if there is any objection where a concern does better than the Code requires? For instance, some of our people are paid more per hour, considerably, than the amount indicated in the Code.

Answer: There is no objection whatever to an employer doing better than the Code requires. The Code establishes only the minimum wage and the maximum hours in the industry. The minimum wage is by no means to be looked upon as a maximum.

—o—

Soap Code Members Attend Conference

THOSE members of the Code Authority of the soap and glycerine industry who attended the national conference of all code authorities in Washington, March 5 to 7, are as follows:

R. R. Deupree, chairman of Code Authority, President Association of American Soap and Glycerine Producers, Inc., and President of Procter & Gamble Company, Cincinnati.

F. A. Countway, chairman of Code Authority's special committee on this Conference, and President of Lever Brothers Company, Cambridge, Mass., together with *Russell White* and *A. B. Stewart*, of same company.

S. Bayard Colgate, Code Authority member, Vice-President of Association of American Soap and Glycerine Producers, Inc., and President of Colgate-Palmolive-Peet Company, Chicago.

F. H. Merrill, Code Authority member, Vice-President of Association of American Soap and Glycerine Producers, Inc., and President of Los Angeles Soap Company, Los Angeles.

Homer D. Banta, Code Authority member, Vice-Presi-

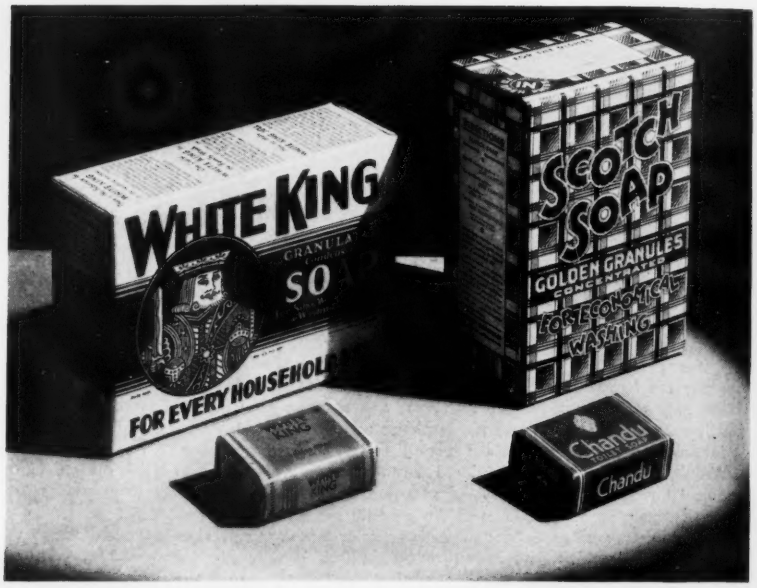
(*Turn to Page* 41)

Soap Meeting in Chicago, April 5

A general meeting of the American soap industry will be held in Chicago on April 5 under the auspices of the Code Authority of the soap and glycerine industry. This general meeting to which all American soap makers will be invited, was originally scheduled for early this month but was postponed because of the National Conference of Code Authorities in Washington, March 5-7. A general discussion of code and other industry problems will be held at the Chicago meeting. Roscoe C. Edlund, executive secretary of the Code Authority and manager of the Association of American Soap & Glycerine Producers, is handling arrangements.

New Products

Burma-Shave packages are redesigned, cartons, and jar closure now being in Nile blue and white, tube in blue and yellow. Manufactured by Burma-Vita Company of Minneapolis.

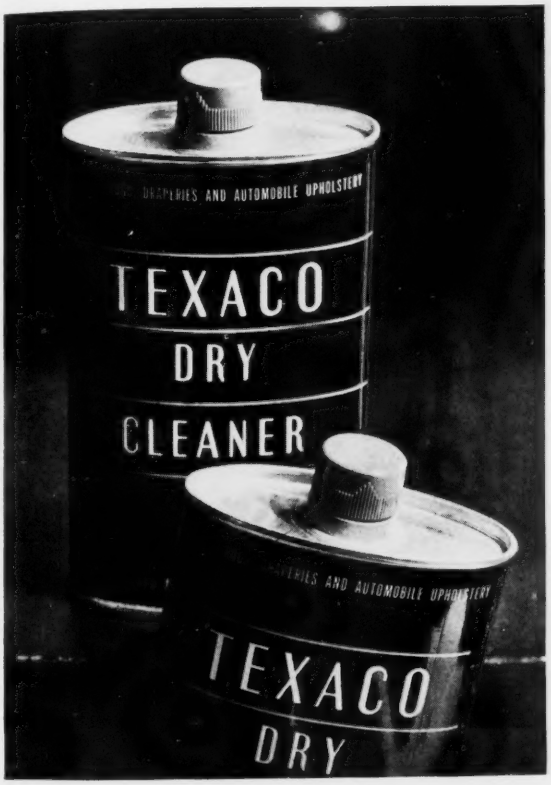


New products and new packages by the Los Angeles Soap Company. White King is a redesigned carton in red and blue. Scotch Soap Granules is a new item. Chandu Toilet Soap (orchid and white wrapper) and White King (green and silver wrapper) are also comparatively new products.

Royal Pine Toilet Soap is the newest addition to the line of the Iowa Soap Company of Burlington. Package in royal purple and green. Protex (red and black carton) celebrates its first birthday. A trend toward cartoning toilet soaps seems to be with us. In background, a before and after redesigning of the Magic Washer package, another Iowa product.

and Packages

A new package for Thoro cleaner in a striking combination of light and dark green and yellow. Product by Thoro Corporation of Los Angeles. Package designed and produced by Cranebrooks of the same city.

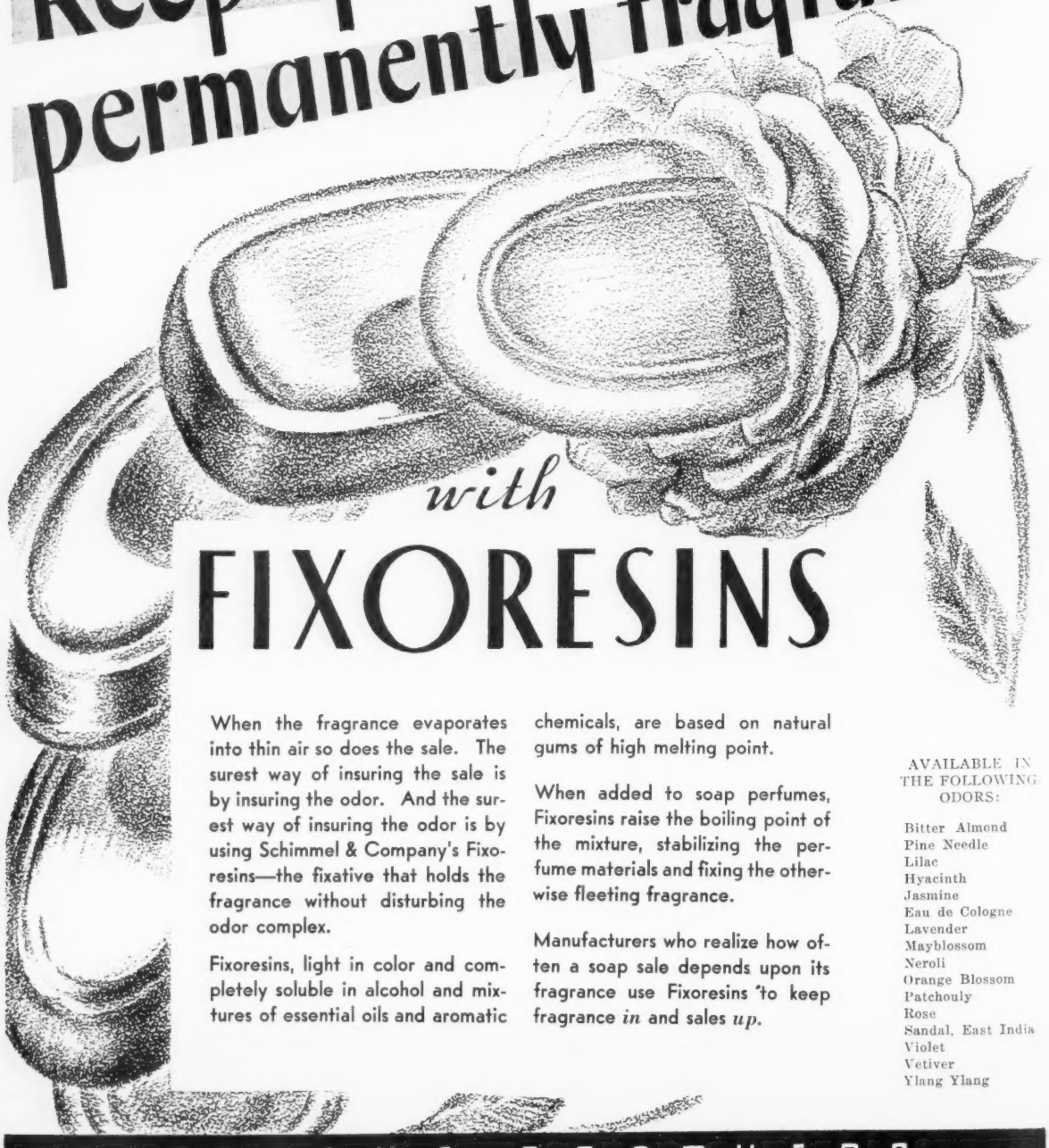


A black can with white lettering topped off by a brilliant scarlet moulded cap makes up the new design for the Texaco Dry Cleaner package. The moulded screw cap is of Durez and is somewhat unusual on a can.

Maintaining "family resemblance" in a series of packages by use of a uniform style closure and container. A series of products of Midway Chemical Company. Closures are black Phoenix metal caps.

Heetfield-Tillou Photo

keep your soaps permanently fragrant



with

FIXORESINS

When the fragrance evaporates into thin air so does the sale. The surest way of insuring the sale is by insuring the odor. And the surest way of insuring the odor is by using Schimmel & Company's Fixoresins—the fixative that holds the fragrance without disturbing the odor complex.

Fixoresins, light in color and completely soluble in alcohol and mixtures of essential oils and aromatic chemicals, are based on natural gums of high melting point.

When added to soap perfumes, Fixoresins raise the boiling point of the mixture, stabilizing the perfume materials and fixing the otherwise fleeting fragrance.

Manufacturers who realize how often a soap sale depends upon its fragrance use Fixoresins to keep fragrance *in* and sales *up*.

AVAILABLE IN THE FOLLOWING ODORS:

Bitter Almond
Pine Needle
Lilac
Hyacinth
Jasmine
Eau de Cologne
Lavender
Mayblossom
Neroli
Orange Blossom
Patchouly
Rose
Sandal, East India
Violet
Vetiver
Ylang Ylang

FRITZSCHE BROTHERS INC.

Proprietors of
Parfumeries de Seillans
Seillans, France

•

118 W. Ohio Street
Chicago

78-84 Beekman St.
New York, N. Y.

Sole Agents in U. S. and Canada for
Schimmel & Company
Miltitz (nr. Leipzig) Germany

•

Fritzsche Brothers of Canada, Ltd.
77-79 Jarvis Street, Toronto

Soap Industry Employment

Statement on Employment Summarizing Data from Questionnaires of Code Authority Approved and Issued

By R. C. EDLUND

Execut've Secy., Code Authority, Soap & Glycerine Mfg. Industry

THE number of employees in the soap manufacturing industry is above normal. This is true not only today but for nine months past, beginning with July, 1933, the number employed has been from 7 to 16 per cent above 1926. It has been from 15 to 25 per cent above the lowest level of employment in the industry which was reached in the summer of 1932. These are U. S. Bureau of Labor figures, confirmed by statistics gathered by the Code Authority of the industry.

No consideration of the employment curve in soap and glycerine manufacturing is complete without giving full weight to work-sharing by the industry before as well as since the NRA. Many companies in the industry, both large and small, participated actively in the share-the-work movement.

The result was that hours of labor for the great majority of employees in the industry were reduced in 1931, '32 and '33 from 50, 54, 60 and more per week to 40 or in some cases 44 or 48 hours per week. It is true that some establishments in the industry, mainly smaller ones, continued to work 55, 60 and more hours per week, but these were greatly in the minority so far as number of workers. Under the industry's NRA Code, the basic maximum work week is 40 hours.

Thus it is the combined effect of share-the-work and NRA which gives the true picture of the soap industry's addition to employment through shorter hours. Of a total at present of approximately 25,000 workers, more than 4,000 owe their jobs to the combined result. Of these 2,500 or more were retained or added to the NRA, and probably another 1,500 or more in the period since the NRA went into effect.

Statistically the Code Authority can best make comparisons between typical weeks in July, 1933, and January, 1934. These statistics are based upon questionnaires sent to the entire industry during February which were filled in and returned to the Code Authority before March 2 by 176 reporting companies covering practically 200 establishments employing 17,514 employees exclusive of those exempted from hour and wage provisions of the Code. The comparisons are between the week commencing July 10, 1933, and the week commencing January 8, 1934 (except that where these weeks were not representative, the reporting companies were asked to give figures for the nearest typical week in the two months named).

According to these returns, average actual working hours per week were reduced from 43.6 in July to 38.3 in January. Doubtless, before the depression actual working hours in the industry averaged well above 50 and perhaps nearly as high as 54 per week.

The reduction in working hours added of course to the number of employees. Offsetting this, however, was a sharp decline in production. The Code Authority does not have production statistics for the 176 companies, but it did secure figures for the same two weeks from all companies directly represented on the Code Authority and covering more than 80 per cent of the tonnage produced in the industry. This large cross-section showed production in the typical week in January more than 14 per cent less than production by the same companies in the typical week in July. This substantial reduction in tonnage is reflected in part by the reduced man hours reported by the 176 companies, the totals being 719,878 for the week of July 10 and 670,007 for the week of January 8, a reduction of 6.9 per cent.

Despite these reductions, the number of employees reported by the 176 companies increased from 16,511 to 17,514, a gain of 6.1 per cent when all companies in the industry report, and when all classes of employees are considered, it is believed that the total increase in the industry is 1500 or more.

Simultaneously under the Code wages per hour went up. The average increase shown is from 49.1 cents per hour to 57.2 cents, a substantial rise of 16.5 per cent. Despite reduced working hours, the average wage per week also increased from $21.41 per week to $21.90, an increase of 2.3 per cent.

Total payrolls increased from $353,544 per week to $383,484, an increase of 8.5 per cent. Of course, the fact that such increase occurred at a time when production was 14 per cent reduced, materially increased unit labor costs in the industry.

Summaries of the figures are given below in three tables, the first for all employees reported, the second for factory employees reported, the third for office employees reported.

It must be emphasized again that these figures tell only part of the story. They are, in the first place, returns from only part of the industry. Secondly, they deal only with July to January, not accounting for results achieved prior to July, which results were substantial. Thirdly, production had substantially decreased. Taking all factors into consideration, it is believed that if demand and production in the soap manufacturing industry were normal, the number of workers

(*Turn to Page* 40)

Advance Laundry Soap Prices

Laundry soap prices were advanced approximately seven to ten per cent by Procter & Gamble Co. and Colgate-Palmolive-Peet Co., February 19, the move coming as something of a surprise to the distributing trade which, contrary to previous practice, was not given the opportunity to stock up at the old level before the advance. The increase reflected materially higher prices for rosin, tallow and other soap making raw materials. Dollar devaluation and the recent proposal to levy a prohibitive tax on coconut oil are the factors responsible for the sharp advance in raw materials. Procter & Gamble Co. advanced by 15c per case prices on its "P & G Naphtha," "Kirk's Flakewhite," "Bob White," "O K" and "Cleanquick." Colgate-Palmolive- Peet Co. discontinued its one for ten deal on "Crystal White" laundry soap which is equivalent to an increase in cost of about ten per cent.

—o—

Peet Bros. Soap Founder Dies

William Peet, founder of Peet Brothers Soap Co., Kansas City, now a part of Colgate-Palmolive-Peet Co., died March 4 in Beverly Hills, Calif., at the age of eighty-seven. Mr. Peet was a native of Chattries, England, coming to United States in 1862, when fifteen years old, with his two brothers, Robert and Jesse. They worked in their uncle's soap factory in Cleveland for a number of years and there learned the soap business. In 1872 they moved to Kansas City and set up a plant. The company was incorporated in 1892, with William Peet as president. He continued in this position until his retirement in 1917. The Peet Company was merged with the Palmolive organization in 1927 and in 1928 the Colgate-Palmolive-Peet Co. was formed.

William Peet

—o—

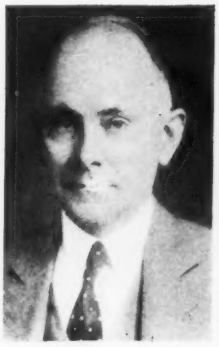
Officials of Canadian branches of United States soap firms, state it is improbable that a proposed tax on coconut and sesame oils across the border would lead manufacturers to transfer production, or any part of it, to their Canadian plants. The opinion was expressed by the officials of three leading companies that the duty on soap imported from the Dominion would offset any advantage derived from a tax advantage.

—o—

Canadian Industries, Ltd., Toronto, sole producer of caustic soda in Canada, has announced plans for construction of a second alkali plant at Cornwall, Ont., at an estimated cost of $1,200,000. The company will continue its present caustic soda and chemical plant at Sandwich, Ont., in full operation. Canadian Industries, Ltd., is affiliated with Imperial Chemicals, Ltd., England, and E. I. duPont de Nemours & Co., Wilmington.

Rapelje New C-P-P Superintendent

Walter S. Rapelje, for the past fifteen years general superintendent of Kirkman & Son, Brooklyn, was appointed as general superintendent for the Colgate-Palmolive-Peet Co. effective March 1 with headquarters in Jersey City. Mr. Rapelje succeeds J. A. Coulter who was elected vice-president in charge of production to take the place of N. N. Dalton who resigned last January 1, as reported in February *Soap*. Mr. Coulter was first affiliated with Palmolive in Milwaukee. Mr. Rapelje is a Kirkman man, having first joined that company as chief chemist in 1910. In 1913, he became assistant superintendent and in 1919 was made general superintendent of Kirkman. In 1928, he was chosen treasurer and a member of the Kirkman board. When Kirkman was merged with C-P-P, he continued as Kirkman treasurer and a board member. Mr. Rapelje's first experience in the soap industry was as a chemist with B. T. Babbitt in 1904-5 after receiving his B. S. and Master's degree from Polytechnic Institute of Brooklyn. Both Mr. Coulter and Mr. Rapelje are well known in the soap industry as outstanding authorities on soap manufacture.



J. A. Coulter

Blank & Stoller

W. S. Rapelje

—o—

Japan to Stop Soap Infringers

The Commercial Counsellor of the Japanese Embassy in London, having had its attention drawn to the recent case of Lever Brothers against a Japanese manufacturer, who had produced an imitation of the firm's famous soap, has made the following statement: "My Government is doing all in its power to put a stop to the practice and where possible to obtain some redress for those to whom damage has been done. We have found, on occasion, that goods of this kind have been made outside Japan, though exploited in the Japanese market. This form of deception, however, is much less than it was 40 or 50 years ago. It sometimes happens that a foreigner to Japan approaches a manufacturer with a request that he should do certain work. This work has been done in good faith, but when the fraud is discovered the foreigner is nowhere to be found and the Japanese manufacturer is made the scapegoat. My Government is vigorously trying to stop it in the interest of good commercial relations between Japanese and other countries."

CHICAGO TRADE NOTES

THE February meeting of the Chicago Perfumery, Soap and Extract Association, held February 13th at the Hamilton Club, attracted the largest attendance in several months. A discussion of pending legislation was conducted in its relation to probable effect on the industry. Ways and means of combatting this legislation were considered. Walter H. Jelly, president of the association, has appointed committees for the coming year which are headed by the following chairmen: executive, Walter H. Jelly; legislative, J. H. Helfrich; membership, E. M. Tysdal; entertainment, R. Brown; publicity, Harold E. Lancaster; golf, Elmer Smith; and bowling, Martin B. Vance.

—o—

The February meeting of the Chicago Drug & Chemical Association was held on the 20th of the month, with seventy members attending. The feature of the meeting was an address by Miss Marian Marshall, "Roosevelt to Date." The next meeting of the group is the annual meeting for election of officers, scheduled for the 29th of March. At this meeting the nominating committee, headed by William O'Neil, Emerson Drug Co., will submit its proposed slate for the coming year.

—o—

Chicago Sanitary Products Co., Chicago, is mailing a folder describing a new liquid floor wax.

—o—

Murray & Nickell Mfg. Co., Chicago, pyrethrum suppliers, has appointed William Groch as representative in the Kansas City territory.

—o—

Colgate-Palmolive-Peet Co. are reported ready to launch an advertising campaign on "Cashmere Bouquet" soap.

—o—

Representatives of manufacturers of non-advertised and private brand soaps met February 14th and 15th at the Netherlands Plaza Hotel in Cincinnati. At the meeting, it was decided that the application for a supplemental code for their branch of the industry be withdrawn.

—o—

Harry Ahles, western representative for John Powell & Co., New York, pyrethrum, has just returned to Chicago from an extended trip through the west and northwest. He reports that insecticide manufacturers in those states are experiencing a very healthy increase in their business.

—o—

Indianapolis Soap Co., Indianapolis, maker of laundry soap, recently moved into larger quarters at 1249 Roosevelt Avenue.

—o—

The Canadian Tariff Board has dismissed an appeal from a ruling of the Department of National Revenue in which Lever Brothers, Limited, of Toronto, sought exemption of duty on the steel drums in which glycerine is imported. The board supported the department's ruling that the drums are dutiable.

Billy Van Wins Soap Suit

In an opinion handed down by Judge George F. Morris in the Federal Court at Concord, N. H., February 22, all existing contracts between Pine Tree Products Co., Newport, N. H., and Teele Soap Co., Cambridge, Mass., were cancelled and the latter concern was ordered to return to Pine Tree Products Co. all machinery and supplies which the Teele company held. An injunction is to be issued restraining the Teele Soap Company from manufacturing, vending or in any way dealing in Billy B. Van's Pine Tree Soap or other Pine Tree products.

Billy B. Van

Legal action was instituted in August, 1933, following a dispute between the two companies as to the quality of Pine Tree soap made for Mr. Van's concern by Teele Soap. Mr. Van alleged that the Cambridge concern was unable to make satisfactory deliveries of the soap and sought to have it made in other places to meet orders. Teele claimed sole rights to manufacture under its contract and blamed delay in producing a satisfactory product on Mr. Van's inability to supply a formula. The defendant sought to continue to manufacture and sell the soap itself. Court action started with the filing of a bill in equity by the Cambridge company seeking a permanent injunction to prevent interference by the Newport company with its business.

The Pine Tree company answered by seeking cancellation of its contracts with the plaintiff, an accounting of damages, return of its equipment and a permanent injunction against sale of the soap by the Teele company. All were granted it by Judge Morris, who stated in his recent decision "the Teele Soap Company was altogether too optimistic as to its ability to manufacture a good cake of Billy B. Van's Pine Tree soap before the contract was entered into and made representations as to its ability to the injury of the Pine Tree Products Company." This, he said, had "materially affected the sale of the soap." He also gave as his opinion that the "Teele Soap Company hoped to crowd the Pine Tree Products Company out of the picture entirely and secure the business for itself."

—o—

The semi-annual meeting of the Packaging Machinery Manufacturers Institute was held at the Hotel Astor, New York, March 12, in conjunction with the Fourth Packaging Exposition being held at the same hotel, March 13-16, under the sponsorship of the American Management Association. A feature of the packaging show was the award of the Irwin D. Wolf trophy for the most effective package developed and placed on the market between January 1, 1933, and February 15, 1934.

SOAP presents a *perfuming problem* of a special character. To handle it successfully requires intimate knowledge of soap manufacturing and, above all, experience with soap perfumes.

We have done a considerable amount of work along those lines, and offer several series of soap perfumes of *tried worth.*

Send for *smelling samples.*

Almond
Almond—Rose
Almond—Cocoa
Antiseptic Odor
Bouquets of great variety
Carnation
Cedar
Citrella
Cologne
Fougere
Gardenia
Geranium
Girella
Jasmin
Lavender
Lemon
Lilac
Lily
Mint
Narcissus
Orange
Oriental
Patchouly
Pine
Pineapple
Rose
Sandalwood
Sweet Pea
Verbena
Violet

Also many odors for shampoo and liquid soap

van Ameringen-Haebler, Inc.

Aromatic Essentials

315 Fourth Avenue, New York
180 No. Wacker Drive, Chicago
438 West 48th St., Los Angeles
42 Wellington Street, E., Toronto

Factory, Elizabeth, N. J.

PERSONAL AND IMPERSONAL

A. Henry Gaede, Laurel Soap Mfg. Co., Philadelphia, was the chief speaker at a recent meeting of the South Central Section of the American Association of Textile Chemists and Colorists, reading a paper on silk degumming.

—o—

A. W. Barnes Soap Co., Brooklyn, has announced the appointment of Frederick H. Hitchcock as superintendent and general manager and Henry Schuck as technical director. Alex R. Wilson is president and Margaret Barnes, secretary, of the concern.

—o—

Yardley & Co., Ltd., New York, announce the appointment of Irving S. Goodwin, metropolitan salesman for the company for the last eleven years, as assistant sales manager. Mr. Goodwin will work under Curtis Campaigne, sales manager. Much of his Manhattan territory will be taken over by David Stewart who has been covering Long Island.

—o—

George B. Robbins, formerly vice-president of Armour & Co., Chicago, died in February at Burlingame, Calif., at the age of seventy-two. Mr. Robbins left Armour & Co. in 1932 after being with the company for thirty-five years. He has since been president of the Sutter Basin Co., a California land company.

—o—

Hewitt Soap Co., Dayton, O., has moved its New York office to larger quarters in the same building where it has been located for some years, 47 West 34th St. The new quarters are four times the size of the space formerly occupied, occasioned by a steady growth in business during the past few years. Martin F. Schulties, vice-president of the company, is in charge of the New York branch.

—o—

A new one-price-to-all policy on Colgate-Palmolive-Peet Company toilet preparations has been put into effect by that company, the new plan assuring the retailer of a full 33 1/3 per cent profit. Every direct buyer, no matter how large or how small, will pay the same price, it is stated.

—o—

American Soap & Washoline Co., Cohoes, N. Y., announces the election of Miss Clara Andrae as president. Hugh P. Graham is vice-president and secretary of the company and James E. Graham, treasurer. Walter C. Graham and Miss Anna Andrae, together with the above, constitute the board of directors.

Rodex Chemical Co. has been organized in Charlotte, N. C., to engage in the manufacture of soaps, disinfectans, chemicals, lotions, etc. Incorporators are Fred E. Lagerholm, R. H. Townsend, Beth N. Lagerholm and Sadie M. Townsend.

—o—

Joseph Schauer, treasurer of Cathedral Candle Co., Syracuse, N. Y., died in February at the age of seventy-three, after an illness which lasted six months.

—o—

Louis A. Pelton, for the past eight years sales manager ftr Grocery Store Products, Inc., New York, has been made general manager of Pompeian Olive Oil Corporation, Baltimore. The Pompeian concern, formerly a subsidiary of the Van Camp Packing & Products Companies, is now an entirely local corporation.

—o—

A series of thefts of toothpaste from the Jersey City plant of Colgate-Palmolive-Peet Co., extending over the past six months, was solved last month when it was found that the stolen goods were being mailed out of the plant. Six men were arrested: Thomas Conroy, Thomas Patey, Joseph Alonzo, Frank Alonzo, Dennis Rohan and Ralph Kahn.

—o—

John Wiley Jones Co., water softeners and cleansing compounds, LeRoy, N. Y., will shortly erect a branch plant in Long Island City, N. Y., to supply buyers in the metropolitan district.

—o—

Barbasol Co., Indianapolis, is introducing a new 50c shaving kit consisting of a tube of "Barbasol," a razor and blades.

—o—

J. L. Prescott Co., Passaic, N. J., maker of "Oxol," announces that the Oxol Trio will inaugurate its fourth year on the radio with a new schedule of four evening programs over an increased number of stations.

—o—

Pacific Silicate Co., with offices at Berkeley, San Francisco and Los Angeles, has been named Pacific Coast distributor for the Caled Products Co., dry-cleaners' supplies.

—o—

Bon Ami Co. and subsidiaries earned net profit of $1,086,047, during 1933. This was equal to $10.86 a share on 100,000 shares of Class A stock and $2.96 a share on Class B. In 1932 earnings were $1,092,386, equalling $10.92 on the Class A and $2.98 on the Class B.

COLUMBIA

SODA ASH
•
CAUSTIC SODA
•
MODIFIED SODAS
•
CALCIUM CHLORIDE

☆

THE COLUMBIA ALKALI CORPORATION

Executive Sales Offices

EMPIRE STATE BUILDING, NEW YORK

Branch Sales Offices

BARBERTON, OHIO

431 - 451 ST. CLAIR ST.
CHICAGO

CAREW TOWER
CINCINNATI

SANTA FÉ TERMINAL BLDG.
DALLAS

Plant at BARBERTON, OHIO

Import Soap Co. has been established at 2718 Elliott Ave., Seattle.

—o—

Bristol-Myers Co. and subsidiaries earned net profit of $2,156,151 in 1933, equal to $3.07 a share. This compares with $2,447,130, or $3.49 a share, in 1932.

—o—

An advertising campaign on "Suds-A-Lot," a water softener and cleanser, has just been released by Suds-A-Lot, Inc., Joliet, Ill.

—o—

Robert W. Neal is president and W. C. Opdycke is sales manager of the newly organized Laundrene Soap Corp. in Seattle, Wash.

—o—

Gold Dust Corp. and subsidiaries report net profits of $2,666,029 for 1933, equal after preferred dividends, to $1.30 a share on the common. This compares with 12,513,549, or $1.22 a share, in 1932.

—o—

Calsodent Co., New York, has reduced the price of its "Cal-So-Dent" dentifrice from $1 to 50c and has doubled its advertising budget preparatory to inaugurating an aggressive campaign of sales promotion in the national market.

—o—

G. R. Cain, connected with the advertising department of Swift & Co., Chicago, for over twenty-three years, resigned March 10 and after a brief vacation will return to the field of marketing. Mr. Cain was originally engaged to handle soap advertising and later took over advertising and sales promotion on other Swift products.

—o—

Swartz Co., Jeffersonville, Ind., is distributing "Zim" automobile polish in a new lithographed can.

—o—

Frederick Stearns & Co., Detroit, earned net profit of $21,315 in 1933, equal to $1.58 a share on the 13,485 shares of 7 per cent preferred. This compared with net loss of $179,577 in 1932.

—o—

The eastern division office of Dow Chemical Co., Midland, Mich., will be moved about April 1 from the Lincoln building, New York, to the RCA building in Rockefeller Center where considerably larger space has been taken. Ralph E. Dorland is manager of the Dow eastern division office.

—o—

An addition to the ranks of women advertising managers in Canada is the recent appointment of Miss Pearl Clark, who will be in charge of advertising for Harriet Hubbard Ayer of Canada, Limited, manufacturer of beauty preparations. Miss Clark has had many years of experience in Canada advertising agency and newspaper work with the Vickers and Benson advertising agency and general manager of Mari-Moore Services.

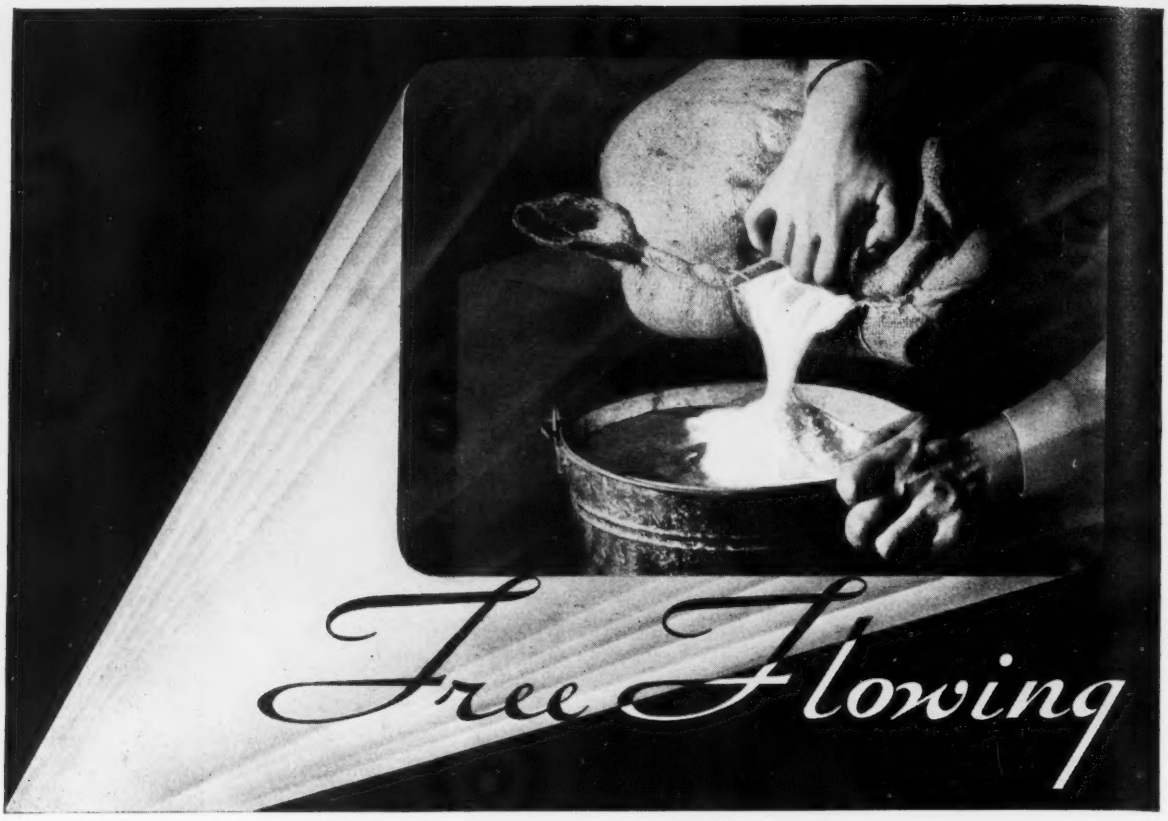
Bayard Colgate Explains C-P-P Report

The annual report of Colgate-Palmolive-Peet Co. for 1933 shows net earnings of $373,389, equivalent to $1.50 a share on the 248,197 shares of 6 per cent preferred stock outstanding, as compared with $53,301, or 21c per share on 258,197 shares in 1932. "Our operating profit of $373,389," S. Bayard Colgate said in his annual report as president, "is as unsatisfactory to the management as it must be to the stockholders." Several factors were responsible for the failure to show an even better record as compared with 1932. Higher costs were encountered under the NRA without the company enjoying any apparent compensating gain.

During the first quarter of 1933, according to the report, there was an operating loss, due largely to the necessity of continuing the protection of dealers' stocks on price declines, most of which started in 1932. Another charge against 1933 profits was the write-off of $225,000 for obsolete inventory. A charge of $400,000 was also made against operating profits, as a reserve against price declines put through in 1934. While the benefits of these price changes should be felt in 1934 and subsequently, yet the reserve applies to goods which were sold and on which profits were taken in 1933. A deduction from surplus of $1,000,000 was made to write down on the books certain land, buildings and equipment made obsolete by the 1928 merger of Colgate & Company with the Palmolive-Peet Company.

These significant changes in accounting practice were accompanied by other broad developments during the year, involving re-organization of executive personnel and a sweeping revision in sales policies. The salaries of the president and chairman of the board have been reduced to $1 a year until such time as dividends are resumed on the common stock, and a bonus plan for officers has been approved to go into effect after preferred dividends and a fair return on the common stock have been met. Principal offices have been moved recently from Chicago to Jersey City.

The report shows a 1933 sales total of $62,313,660, compared with $67,741,303 the year before, the 8 per cent decline being due largely to the lower price level prevailing throughout all but the second quarter of the year. The conservative methods applied to the company's 1933 accounting practices are disclosed in the following changes, detailed in the report: Marketable securities, the report states, for some years carried at book value, are now shown at market prices, and the difference of $400,000 between book and market value has been charged to surplus. Accounts receivable show a decided improvement over last year, having declined $3,658,420. This is a decline of 35 per cent, compared with a decline in sales of 8 per cent. Better business conditions, Mr. Colgate believes, as well as changed sales policies, have undoubtedly brought this about. Inventories of $16,853,304 are shown at cost, which in the aggregate is lower than market, and compares with $13,367,817 a year ago. It will be the policy to value inventories in the future at the lower of cost or market.



GRASSELLI
TRI-SODIUM PHOSPHATE

As our process permits GRASSELLI Tri-Sodium Phosphate to cure, it is FREE FLOWING.

Non-Sifting Packages. Shipped to you in barrels with paper liner—no loss either in transit or storage. Also comes in kegs and bags. Grades—fines, medium, coarse, flake and globular.

Let us figure on your T. S. P. requirements. If you are in a hurry, call up our nearest branch. Write for folder.

Write for Folder

GRASSELLI

Let Us Also Quote You On

Silicate of Soda	Carbon Tetrachloride
Caustic Soda	Paradichlorobenzene
Soda Ash	Sodium Fluoride

THE GRASSELLI CHEMICAL COMPANY
CLEVELAND INCORPORATED **OHIO**

New York Office and Export Office: 350 Fifth Avenue

Albany Birmingham Boston Charlotte Chicago Cincinnati Detroit
Milwaukee New Haven New Orleans Philadelphia Pittsburgh St. Louis St. Paul
SAN FRANCISCO—584 Mission St. LOS ANGELES—2260 East 15th St.

Represented in Canada by CANADIAN INDUSTRIES, Ltd., Acids and General Chemicals Division, Montreal and Toronto

GRASSELLI GRADE
A standard held high for 95 years

RECORD OF TRADE-MARKS

The following trade-marks were published in the February issue of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompanying each notice of opposition.

Trade Marks Filed

WHIZ—This in outline letters describing metal polish, cleaning compounds, auto soap, washing compound, liquid soap, etc. Filed by R. M. Hollingshead Co., Camden, N. J., Nov. 21, 1932. Claims use since Sept. 1, 1905.

LATHERTE—This in script describing shaving soap and turtle oil soap. Filed by Hollywood Marvel Products Co., Los Angeles, Oct. 23, 1933. Claims use since July 18, 1928.

EVERYDAY—This in broken letters describing soap. Filed by W. T. Grant Co., New York, Dec. 1, 1933. Claims use since Sept. 15, 1930.

DRENE—This in solid letters describing liquid hymolal shampoo. Filed by Procter & Gamble Co., Cincinnati, Dec. 1, 1933. Claims use since Oct. 25, 1933.

VENILO—This in solid letters describing insect spray. Filed by Robert C. White Co., Philadelphia, Dec. 9, 1933. Claims use since Sept. 1, 1933.

MARY LOU—This in script describing cold cream soap. Filed by Drexell Products Corp., Brooklyn, Dec. 11, 1933. Claims use since Aug. 16, 1933.

No. 17—This in solid letters describing liquid antiseptic for cleaning telephone mouthpieces. Filed by Low Chemical Co., New York, Nov. 22, 1933. Claims use since Nov. 1, 1933.

SPIC—This in solid letters describing polish. Filed by Ritter Dental Mfg. Co., Rochester, July 27, 1933. Claims use since May 19, 1933.

DREXELL—This in solid letters describing auto polish. Filed by Drexell Products Corp., Brooklyn, Dec. 11, 1933. Claims use since Aug. 16, 1933.

DESOIL—This in broken letters describing chemical detergent. Filed by Cowles Detergent Co., Cleveland, Dec. 16, 1933. Claims use since Dec. 1, 1933.

HI-LITE—This in outline letters describing metal polish and glass cleaner. Filed by National Carbon Co., New York, Dec. 28, 1933. Claims use since Nov. 6, 1933.

ODORONO—This in solid letters describing soap. Filed by Odorono Co., New York, Jan. 3, 1934. Claims use since Oct. 17, 1933.

OXYLIN—This in script describing antiseptic. Filed by Evons Laboratories, Philadelphia, Nov. 8, 1933. Claims use since July 1, 1932.

CEPEC—This in solid letters with globe describing antiseptic product. Filed by Lake Shore Laboratories, Chicago, Dec. 8, 1933. Claims use since Jan. 1, 1932.

VALGENE—This in solid letters with female head, describing antiseptic product. Filed by Valgene Laboratories, Chicago, Dec. 8, 1933. Claims use since Jan. 1, 1932.

J-Co—This in solid letters on carton picturing gnomes cleaning, describing polishing and cleaning powder. Filed by De-O-Ez Products Corp., Rochester, Oct. 13, 1932. Claims use since Oct. 5, 1932.

BLACK SEAL—This in solid letters with drawing of seal describing stove polish. Filed by Warren Chemical Co., Fall River, Mass., Aug. 22, 1933. Claims use since Feb. 20, 1932.

JOY—This in solid letters with sketch of ringing bells, describing cleaning compound. Filed by Joy Products Co., Flint, Mich., Oct. 20, 1933. Claims use since July 19, 1933.

NEUMYTHOL—This on reverse plate describing mouth wash and antiseptic. Filed by Victor A. Newcomer, Lincoln, Nebr., Nov. 9, 1933. Claims use since Sept. 1, 1933.

—o—

Trade Marks Granted

309,845. Cresol Disinfectant. United Chemical Co., Kansas City. Filed August 16, 1933. Serial No. 340,758. Published November 7, 1933. Class 6.

309,847. Mouth Wash and Tooth Paste. Dr. Hyman's Dental Products Co., Philadelphia. Filed August 15, 1933. Serial No. 340,715. Published November 7, 1933. Class 6.

309,848. Mouth Wash, Tooth Paste. Dr. Hyman's Dental Products Co., Philadelphia. Filed August 15, 1933. Serial No. 340,719. Published November 7, 1933. Class 6.

309,852. Polish, Cleaning Compounds and Oil Soap. Cochran Co., Cleveland. Filed August 9, 1933. Serial No. 340,519. Published November 28, 1933. Class 4.

309,853. Antiseptic Cage Cleaner and Lice Destroyer. Antiseptic Bird Wash. Justrite Co., Milwaukee. Filed July 29, 1933. Serial No. 340,225. Published November 7, 1933. Class 6.

309,870. Cleansing Preparation. Founders Paint Co., Milwaukee. Filed September 27, 1933. Serial No. 341,921. Published November 21, 1933. Class 4.

309,897. Household Cleanser. Silver Suds Co., Philadelphia. Filed October 7, 1933. Serial No. 342,241. Published November 21, 1933. Class 4.

309,899. Polishing and Cleaning Preparation. Windsor-Lloyd Products, Inc., Wilmington. Filed October 6, 1933. Serial No. 342,208. Published November 21, 1933. Class 16.

309,902. Furniture Polish and Auto-Body Polish. Texas Co., New York. Filed July 12, 1933. Serial No. 339,690. Published November 21, 1933. Class 16.

309,909. Emulsive Solvent Cleaner. Tidy Co., Rocky Mount, N. C. Filed June 24, 1933. Serial No. 339,335. Published November 28, 1933. Class 4.

309,920. Soap. Carman & Co., New York. Filed May 11, 1933. Serial No. 337,688. Published November 28, 1933. Class 4.

309,927. Dental Cream. Silica Products Corp., New York. Filed October 27, 1932. Serial No. 331,627. Published November 14, 1933. Class 6.

309,939. Soaps. J. T. Robertson Co., Syracuse. Filed April 5, 1933. Serial No. 336,456. Published November 21, 1933. Class 4.

309,962. Cleanser. Kondner Products Co., Baltimore. Filed October 19, 1933. Serial No. 342,653. Published November 28, 1933. Class 4.

309,979. Insecticide. Jones Products Co., Chicago. Filed September 11, 1933. Serial No. 341,481. Published November 14, 1933. Class 6.

310,019. Tooth Paste. Silica Products Corp., New York. Filed October 2, 1933. Serial No. 342,081. Published November 21, 1933. Class 6.

310,023. Dental Cream. Colgate-Palmolive-Peet Co., Chicago. Filed October 2, 1933. Serial No. 342,066. Published November 21, 1933. Class 6.

310,031. Germicidal Soap. Johnson & Johnson, New Brunswick, N. J. Filed September 28, 1933. Serial No. 341,973. Published November 21, 1933. Class 4.

310,083. Insecticides. Sherwin-Williams Co., Cleveland. Filed October 2, 1933. Serial No. 342,800. Published November 28, 1933. Class 6.

310,312. Metal Polish. Dason Products Co., Washington, D. C. Filed October 17, 1933. Serial No. 342,589. Published December 12, 1933. Class 4.

310,323. Colored Wax Wood-Polishes in Liquid and Paste Form. Colowax Co., Brooklyn. Filed October 10, 1933. Serial No. 342,306. Published December 5, 1933. Class 16.

310,333. Soaps. Maurice Marks, New York. Filed March 23, 1933. Serial No. 336,011. Published December 12, 1933. Class 4.

310,356. Soap, Dry Cleaner, Etc. Edgar Rice Burroughs, Inc., Tarzana, Calif. Filed October 19, 1933. Serial No. 342,637. Published December 12, 1933. Class 4.

310,371. Toilet Soap. Bourjois, Inc., New York. Filed November 1, 1933. Serial No. 343,146. Published December 12, 1933. Class 4.

310,425. Insecticide Spray. Plant Foods, Inc., Blue Point, N. Y. Filed September 5, 1933. Serial No. 341,339. Published December 12, 1933. Class 6.

310,468. Insecticide. Plant Foods, Inc., Blue Point, N. Y. Filed September 5, 1933. Serial No. 341,340. Published December 12, 1933. Class. 6.

310,525. Antiseptic and Germicidal Product. Wm. S. Merrell Co., Cincinnati. Filed October 6, 1933. Serial No. 342,195. Published December 5, 1933. Class 6.

310,547. Antiseptic. National Research Laboratories, Los Angeles. Filed April 19, 1933. Serial No. 336,925. Published December 12, 1933. Class 6.

Soap Industry Employment

(*From Page* 31)

under present provisions of the Code would be at least 20 per cent greater than normal, with payrolls in excess of 1926. The July-January summaries follow:

COMPARISON OF HOURS AND WAGES OF EMPLOYEES IN THE SOAP INDUSTRY, IN TWO TYPICAL WEEKS

(As reported by 176 manufacturers)

	Week Commencing July 10, 1933	Week Commencing Jan. 8, 1934	Per cent Change
Combined Factory and Office Employees			
Number of employees	16,511	17,514	+6.1
Man hours worked	719,878	670,007	—6.9
Average hours per week per employee	43.6	38.3	—12.1
Total wages	$353,544.68	$383,484.86	+ 8.5
Average weekly wage per employee	$21.41	$21.90	+ 2.3
Average hourly rate of pay	49.1¢	57.2¢	+16.5
Against this, production declined 14 per cent.			
Factory Employees Only			
Number of employees	13,129	14,050	+ 7.0
Man hours worked	586,420	537,528	— 8.3
Average hours per week per employee	44.6	38.3	—14.1
Total wages	$265,242.53	$291,560.97	+ 9.9
Average weekly wage per employee	$20.20	$20.75	+ 2.7
Average hourly rate of pay	45.3¢	54.2¢	+19.6
Office Employees Only			
Number of employees	3,382	3,464	+ 2.4
Man hours worked	133,458	132,479	— .7
Average hours per week per employee	39.5	38.2	— 3.3
Total wages	$88,302.15	$91,923.89	+ 4.1
Average weekly wage per employee	$26.11	$26.54	+ 1.7
Average hourly rate of pay	66.2¢	69.4¢	+ 4.8

Economists Oppose Coconut Oil Tax

A series of telegrams have been received over the past few weeks by Dr. Warren M. Persons, formerly professor of political economy at Harvard University, in protest against the proposed 5c per pound excise tax on coconut oil now pending in Congress. Economists from Princetion University, University of Illinois, Ohio State University, New York University, Harvard University, University of California and a number of other institutions have come out in opposition to the tax, pointing out that a measure such as this, which would raise the cost of soap 50 per cent at least, is "against the public welfare." The following are some of the other reasons given for opposito the tax:

1. It is equivalent fiscally to a sales tax upon a necessity of life, aggravating the already serious tax burden on low income groups, raising the cost of living to the

masses, and tending in consequence to slow down the pace and narrow the scope of recovery.

2. The increased financial burden such a tax would impose upon the hospitals of the country alone, in cost of soap ought to condemn it.

3. The proposed tax is inimical to social welfare. The decreased use of soap must endanger private and public health through the risk of infections and epidemics.

4. The perversion of the protective principle to serve a private interest at the expense of public health is indefensible.

5. Further restriction on imports, whether of coconut oil or manufactured goods, will react to reduce the volume of our basic exports.

—o—

The new president of the Michigan Cosmetic & Extract Association is a well-known character in the Middle-Western trade. He is R. J. Colter, for many years associated with Frederick Stearns & Company of Detroit.

R. J. Colter

—o—

Soap Code Members at Conference

(*From Page* 27)

dent of Association of American Soap and Glycerine Producers, Inc., and President of Iowa Soap Company, Burlington, Iowa, together with *Leo E. Golden* of same company.

A. Roy Robson, alternate for Samuel S. Fels, Code Authority member, and president of Fels and Company, Philadelphia.

I. Katz, Code Authority member and President of J. Eavenson & Sons Co., Camden, New Jersey.

C. F. Young, Code Authority member and President of Davies-Young Soap Company, Dayton, Ohio.

N. S. Dahl, Code Authority member and General Manager of John T. Stanley Co., New York.

C. L. Delaplane, of Swift and Company, Chicago, alternate for G. A. Eastwood of Armour and Company, who is Code Authority member but cannot attend.

W. C. Wollen, Code Authority member and President of Olive Oil Soap Co., Paterson, N. J.

Roscoe C. Edlund, executive secretary of Code Authority and Manager Association of American Soap and Glycerine Producers, Inc., New York, together with *A. P. Federline* and *James E. Stevens*, assistants, and *N. N. Dalton*, chairman of Association Research Committee.

Captain Joseph F. Battley, Code Authority member representing NRA and assistant deputy administrator, Washington.

New Patents

Conducted by

Lancaster, Allwine & Rommel

Registered Attorneys

PATENT AND TRADE-MARK CAUSES

815 15th St., N. W., Washington, D. C.

Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 1,942,418. Method of Drying Soap Flakes. Patented January 9, 1934, by Harry P. Forte, Newton Highlands, Mass., assignor to Lever Brothers Company, Cambridge, Mass. The process of treating soft curved soap flakes to indefinitely retain the curvature initially imparted in them to maintain the volume of packaged flakes, consisting of quickly conveying the soft curved soap flakes to a cooling chamber for precipitation therethrough, introducing the flakes centrally of the upper end of the cooling chamber, individually separating the soap flakes at the point of entrance to the cooling chamber and dispersing them laterally of the entrance, and then retarding precipitation of the flakes in their travel through the chamber by a counter-current flow of cool air admitted to the chamber centrally and peripherally thereof whereby the flakes when discharged at the lower end of the cooling chamber will be sufficiently solidified to retain the curvature initially imparted in them and the packaged flakes remain substantially unaltered in individual shape and aggregate volume over a period of time.

No. 1,942,801. Antiseptic and Germicide. Patented January 9, 1934, by Edgar C. Britton, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich. An antiseptic and germicidal composition comprising ortho-cyclohexylphenol.

No. 1,943,253. Toilet Soap Powder. Patented January 9, 1934, by William H. Alton, New York, N. Y., assignor to R. T. Vanderbilt Company, Incorporated, New York, N. Y. A toilet soap powder comprising finely divided high grade soap and pyrophyllite in the proportions of about 25 per cent of soap to 75 per cent of pyrophyllite, and both ingredients being in a finely subdivided state, the particles of pyrophyllite for the most part or entirely passing through a 100 mesh screen and the soap particles being of similar fineness and the particles of pyrophyllite and soap being thoroughly intermixed with each other, the soap particles dissolving almost instantaneously when the powder is added to water.

No. 1,943,519. Washing Composition. Patented January 16, 1934, by Paul S. Denning, Joliet, Ill., as-

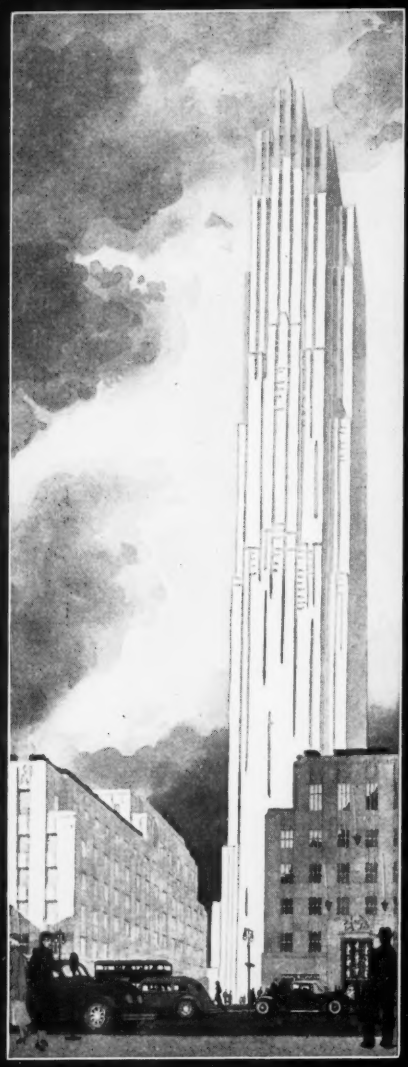
(*Turn to Page* 45)

Our

NEW ADDRESS . .

● On or about April 15, the general offices of the American Cyanamid & Chemical Corporation will be located at 30 Rockefeller Plaza, New York.

The move to these spacious new quarters, on the 57th to the 61st floors, was necessitated by our growing business, an ever present desire to better serve our customers, and to provide for the expansion to which we look forward.



AMERICAN CYANAMID & CHEMICAL CORPORATION

30 ROCKEFELLER PLAZA, NEW YORK

AFTER APRIL FIFTEENTH 1934

CONTRACTS AWARDED

Procter & Gamble Distributing Co., Chicago, has been awarded a contract for 14,400 lbs. laundry soap for delivery to the Chicago U. S. Army Quartermaster at a price of 2.77c. Samuel M. Sher, Chicago Heights, awarded 24,000 lbs. laundry soap at 2.333c and 6,720 lbs. at 2.75c. John Sexton & Co., Chicago, awarded 600 cakes grit soap at 2.57c and 2,000 cakes at 2.11c. Standard Oil Co., Chicago, awarded 500 lbs. candles at 12c.

——o——

Armour & Co., Chicago, has been awarded a contract for 45,000 lbs. ordinary laundry soap for delivery to St. Louis on cir. 51 at a price of 2.19c f.o.b. Chicago. M. Werk Co., Cincinnati, awarded 4,440 lbs. candles, stearic acid and paraffin, at a price of 12.92c.

——o——

Bids are wanted March 27 by the procurement division, Veterans' Administration, Washington, for 800 dozen tubes of shaving soap and 3,600 dozen tubes of toothpaste.

——o——

Armour & Co., Chicago, was recently awarded a contract for 13,380 lbs. laundry soap for St. Louis U. S. Army Quartermaster at a price of 2.6c. Colgate-Palmolive-Peet Co., Chicago, awarded 9,000 lbs. laundry soap at 3.25c. John Sexton & Co., Chicago, awarded 700 cakes grit soap at 2.38c. Scudders-Gale Grocery Co., St. Louis, awarded 768 cans caustic soda at 5.64c.

——o——

A contract has been awarded to Procter & Gamble Distributing Co. for 51,622 bars white floating soap for Brooklyn U. S. Army Quartermaster at a price of 2.05c. Armour & Co., awarded 6,960 cans scouring soap at 2.48c. James Good, Philadelphia, awarded 300 gals. carbon tetrachloride at 73.8c.

——o——

E. I. duPont de Nemours & Co., New York, have been awarded a contract for 8,000 lbs. naphthalene for Fort Sam Houston, Texas, at a price of 7.43c. Jefferson Island Salt Co., Louisville, awarded 50,000 lbs. salt at $0.00535. No award made on 2,000 gals. cleaning solvent.

——o——

The following firms were low bidders on various items noted in a recent Philadelphia U. S. Marine Corps bidding: Kirkman & Son, Brooklyn, 37,500 lbs. soap, 2.89c, 18,750 lbs. soap, 2.78c, 93,750 lbs. soap, 2.72c, and 13,875 lbs. soap, 5.28c; Armour & Co., Chicago, 12,000 lbs. soap powder, 2.383c and 48,000 lbs. soap powder, 2.684c; Jas. Good, Philadelphia, 5,625 lbs. soap, 3.64c; R. M. Hollingshead Co., Camden, N. J., 12,000 cans soap, 4.3c; Noxon, Inc., New York, 8,000 cans metal polish, 5.75c; and Conray Products Co., New York, 6,800 lbs. trisodium phosphate, 7.68c.

——o——

Soap Foreign Trade Less in 1933

While the export trade in toilet soaps and shaving soaps and preparations declined 7 per cent in 1933 compared with the preceding year, imports of such items also decreased by 25 per cent during the same period. Discussing the type of toilet and shaving soaps and preparations exported and the destinations of such shipments, Mr. C. C. Concannon, Chief of the Department of Commerce's Chemical Division, stated that in 1932, the latest year for which such information is available, eighteen countries accounted for the bulk of such exports valued at $1,163,000. Of this amount, total toilet or fancy soaps represented $708,000; medicated soaps, $189,000; shaving creams, $152,000; and shaving sticks, bars, powders, and other shaving preparations, $114,000. The outstanding buyers of these American products are in the Far East. The Philippine Islands alone took $230,000 worth of toilet soaps and $18,000 worth of medicated soaps during 1932. British India was the next best market, purchasing $84,000 worth of shaving creams, powders, and related products. The other good Far Eastern markets were China with purchases valued at $50,000; Netherland East Indies, $40,000; British Malaya, $27,000; and Ceylon, $22,000.

——o——

The price index number of the 23 principal organic oils and fats, as compiled by the Statistical Department of the Bureau of Materials for American Vegetable Oils and Fats Industries, was 69.1 for the month of January, 1934. This is based on the period from August, 1909 to July, 1914, as 100. The index was approximately the same in January as it was in December, 1933, in which month it stood at 69.0.

——o——

H. G. Jennison, president of Jennison-Wright Company, Toledo, manufacturers of "Klearit" activated carbons, has left for California on a combined pleasure and business trip. Mr. Jennison will visit the company's branch offices and representatives in the West before returning from the coast the early part of April.

——o——

Shaving sticks continue to be preferred to creams in Argentina for reasons of economy, according to a report from U. S. Consul Raymond Davis, Cordoba. Creams of domestic manufacture in tubes of 60 grams retail at $1.40, with imported creams costing up to $2.50.

Market Report on

ESSENTIAL OILS AND AROMATICS

(*As of March 7, 1934*)

NEW YORK—The price structure of the essential oil market weakened somewhat this period under the stress of competition among various suppliers. The market has had a sharp gain over recent months, and with the cessation of exchange advances, readjustments were found necessary in some prices. These were provided during the past few weeks by suppliers bidding down quotations competitively to slightly lower levels. Among the oils to be affected were anise, cassia, citronella and Bourbon geranium. On the other hand the market was not without its features of strength. Lavender oil continued to work higher, and white camphor and sassafras oils also advanced.

Anise Oil

Willingness of first hands to shade primary market quotations on this oil allowed local suppliers to reduce prices moderately this period, the current quotation being 39c lb., inside.

Cassia Oil

Competitive bidding in the local market pushed the price of this oil 10c per pound lower this period, although not all suppliers were prepared to meet the lowest figure, which was $1.00 pound for drums.

Citronella Oil

Sellers showed a weakening tendency on this oil also, being disposed to shade the market some to secure business. Java oil is quoted 40c to 45c, with Ceylon at 34c to 35c.

Geranium Oil

Bourbon oil worked 25c pound lower this period, being quoted currently at $5.50 to $6.50. Again competitive conditions were responsible for the decline, and not any change in the actual position. Algerian oil was unchanged in price.

Lavender Oil

Lavender continued as for several months past to be one of the strongest features of the essential oil market. The inside quotation moved up from $2.25 to $2.35, and from that point there is a range up to $6.00, depending on brand and supplier.

Petitgrain Oil

Lowered import costs and competition among local suppliers served to cause a five cent reduction in the price of oil petitgrain this period, which is quoted currently at $1.20 to $1.25 pound.

Sassafras Oil

With raw material continuing to advance, artificial sassafras oil moved up again this period and is now quoted at 30c to 31c pound. White camphor oil also moved upward, being quoted now at 18c.

—o—

Attack Copeland Bill at Hearing

Hearings of the Senate Committee on Copeland Bill No. 2,800, for the revision of the Food and Drugs Act, were concluded February 27, with the general impression being left that so many objections had been raised that a complete rewriting of the bill seemed probable. Charles Wesley Dunn, New York lawyer, and Dr. James H. Beal, president of the Board of Trustees of the United States Pharmacopoeia, were two of the chief critics.

Among the important changes suggested was the establishment of a Board of Review to which manufacturers might appeal from decisions of officials of the Food and Drug Administration. Such a board was provided for in the McCarran-Jenckes Bill written by Mr. Dunn, and approved by the National Drug Trade Conference. It is understood that this proposal is opposed by Assistant Secretary Tugwell and other officials of the Food and Drug Administration as calculated to weaken their powers in dealing with offenders.

Meanwhile still another bill has been introduced in the House of Representative Patrick J. Boland at the instance of Consumers' Research, Inc. Unlike the revisions of the original Tugwell bill prepared by Senator Copeland, it is intended to afford greater protection to consumers rather than to producers of foods, drugs and cosmetics. This brings to nine the number of bills on this question.

—o—

The offices of Belmay, Inc., New York, essential oils and aromatics, have been moved recently to larger quarters at 243 West 17th St. The new phone number is CHelsea 3-2936. Willard A. Walsh, formerly treasurer of Morana, Inc., has recently joined Belmay, Inc., in an executive capacity. Walter Mueller, formerly secretary of Morana, Inc., is vice-president and sales manager of Belmay.

—o—

Ungerer & Co., New York essential oil importers, announce that they have reopened their Boston office in charge of George MacDonald who will have charge of the New England territory.

Market Report on

SOAP AND DISINFECTANT CHEMICALS

(*As of March 7, 1934*)

NEW YORK—Withdrawals of soap and disinfectant chemicals began to pick up toward the end of the period just closed, with consumers now finding it necessary to replenish the stocks which they built up before the turn of the year. Alkalis were in good demand domestically and the export market was also active. Glycerin prices advanced on all grades, with stocks reported as light. Rosin prices also gained sharply.

Alkalis

Soap makers continued to exercise an active demand for alkalis, as the soap industry is continuing production at a high rate. Prices are unchanged at previous levels.

Feldspar

The price of enamel 100 mesh feldspar was reduced 50c per ton this period to a basis to $14.00 to $15.00 per ton.

Glycerin

Glycerin continued to advance in price this period, all grades being quoted from a half-cent to three-quarters of a cent higher. Supply is short in the face of an active demand. In fact it is understood that buyers seeking to contract ahead for production have been unable to assure themselves of stocks of crude. The supply of imported crude also seems to have been depleted, partially by increased consumption abroad and partially by absorption in this market. C. P. is quoted currently at 12c to 12¼c lb., dynamite at 11¼c to 12c, saponification at 7¾c to 8c and soap lye at 7¼c to 7½c lb.

Rosin

The rosin list moved rather sharply higher this period, some grades advancing as much as $1.00 per barrel. The statistical position continued to improve and stocks are now smaller than for a number of years. The closing schedule of quotations was as follows: gum rosin, grade B, $5.50; H, $6.45; K, $6.50; N, $6.50; WG, $6.55; WW, $6.50; wood rosin, $5.93 to $6.26; at works, $5.10.

—o—

Monsanto Chemical Co., St. Louis, reports record high earnings for 1933 of $2,221,207, or $5.14 a share on 432,000 common shares. Earnings in 1932 were $1,012,698, or $2.37 a share. The principal factor in the remarkable increase was said by Edgar M. Queeny, president of the company, to be the opportunity provided by the upturn in business for the company to realize on the $9,000,000 investment which it has made over the past six years in new and more efficient plant. At the annual meeting of stockholers, March 27, a proposal will be presented to increase capital stock from 500,000 to 1,250,000 shares and to distribute to stockholders an additional share for each one held. At the same time the dividend would be changed to $1.00 per share which would be equal to $2.00 on the present capitalization, instead of $1.25 which is now being paid.

—o—

The board of directors of American Cyanamid Company recently paid, out of net earnings for 1933, a special dividend of twenty-five cents per share, to holders of its class "A" and "B" shares of record January 19, 1934.

—o—

New Patents

(*From Page 41*)

signor, by direct and mesne assignments, of one-half to F. E. Schundler & Company, Inc., Joliet, Ill., a corporation of Illinois, and one-half to The Wyodak Chemical Company, Cleveland, Ohio, a corporation of Ohio. A non-gel fabric cleaning composition in liquid form comprising water into which has been dispersed 50 to 70 parts of bentonite, 30 to 50 parts of soda ash for maintaining the bentonite in a highly fluid condition beyond the maximum gel effect on the bentonite and a small amount of soap.

No. 1,944,859. Dry Cleaning Composition. Patented January 23, 1934, by Sidney Born, Tulsa, Okla. A composition useful for cleaning fabrics, clothing and the like comprising the following ingredients in approximately the indicated proportions:

	Per Cent
Tetrachlorethane	1
Dichloroethyl ether	3 to 5
Carbon tetrachloride	4 to 6
Stoddard solvent	90

No. 1,945,235. Process of Preparing a Colorless Household Insecticide. Patented January 30,, 1934, by Nicholas A. Sankowsky, Elizabeth, and Dudley H. Grant, Moorestown, N. J., assignors to Stanco, Incorporated. The process of preparing pyrethrum insecticide which comprises extracting pyrethrum flowers with kerosene to prepare a strong kerosene solution of pyrethrins, shaking the solution with anhydrous methyl alcohol to dissolve part of the kerosene extract of pyrethrum in the alcohol, cooling the alcohol to approximately 32° F. and centrifuging the same to remove dissolved impurities, distilling off the alcohol in vacuo to obtain as residue a purified extract containing the pyrethrins and dissolving the extract in water white kerosene.

RED OIL

STEAR-IC

ACID

TALLOWS

Controlled Production:—

We collect, render and refine all of the raw materials used in our stearic acid and red oil. This close control, not available in any other brand, insures high quality products by eliminating low grade raw materials. Let us submit samples and prices. There is no substitute for quality. Use them in your

Dry Cleaning Soaps

Shaving Soaps

Special Cleaners

Polishes

Liquid Soaps

FANCY - EXTRA and SPECIAL TALLOW

Fatty Acids

Theobald Animal By-Products Refinery

KEARNY, N. J.

ESTABLISHED 1914

SOLVAY

TRADE MARK REG. U. S. PAT. OFF.

PRODUCTS

SODA ASH

CAUSTIC SODA

LIQUID CHLORINE

Contract or Spot Delivery

In tank cars and multiple unit cars.

Write for Prices

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

61 BROADWAY **NEW YORK**

Boston, Syracuse, Chicago, Indianapolis, Cleveland
Cincinnati, Pittsburgh, Detroit, Philadelphia
Kansas City St. Louis

Market Report on

TALLOW, GREASES AND OILS

(*As of March 7, 1934*)

NEW YORK—The threatened imposition of a prohibitive excise tax on coconut oil and possibly other imported oils continued to be the main factor ruling the market for soap-making oils, fats and greases this period, boosting prices for domestic oils and fats. Coconut oil prices were not affected, as the tax is planned to apply to both imported and domestic stocks, giving no present incentive for building up supplies. Domestic fats, corn oil, cottonseed oil, tallow and greases all responded promptly however, gaining half-a-cent to a cent a pound. These items stand to better their position substantially if the cost of coconut oil is forced sharply higher. Many objections were heard to the proposed tax from soap makers, margarin manufacturers, shippers, etc., and it is indicated in some quarters that if the excise tax is ever finally enacted, it will be in a modified form. Another bill was entered in the House of Representatives, February 27, proposing a five cent tax on palm oil, palm kernel oil and soya bean oil. Palm oil, olive oil, and other imported oils showed no material change during the period.

Coconut Oil

Copra eased off further this period, reflecting the lack of desire on the part of domestic crushers to extend their commitments until the political situation with respect to the proposed excise tax is cleared up. Coconut oil was unchanged in price. If, by any chance, the proposed tax should be thrown into the discard, higher prices on coconut oil might be expected, as soap manufacturers are hurriedly converting all the coconut oil stocks they have into finished or partially finished soaps, with a view to avoiding the tax.

Corn Oil

Corn oil shared in the upward movement heavily this period, advancing a cent a pound to a basis of 5c for mill tanks. Offerings from producers and second hands have been light on the expectation of a possible further advance.

Cottonseed Oil

Cottonseed oil advanced rapidly earlier in the period, strong features being the advance of competing product and the bullish movement in commodities and securities. Latterly prices eased off somewhat as speculative sentiment turned bearish as a result of developments at the NRA conferences. The close found crude oil up half a cent on the month, quoted at 4¼c lb.

Grease

Grease quotations advanced along with the general list this period, although few actual transactions were put through at the higher levels. Yellow and house grease are quoted currently at 4¼c, up ¾c lb. on the period.

Tallow

A considerably stronger tone developed in the tallow market in harmony with the general strength in competing product. Offers were few and quotations were firmly maintained at 3½c lb. for city extra, which amounts to a gain of ⅝c lb. over the quotation a month ago.

—o—

Oil Trades to Elect Officers

The Oil Trades Association of New York will hold its annual meeting and election of officers at the Waldorf-Astoria Hotel, March 20, with an informal dinner at 7:00 P. M. preceding the business session. Nominations have been made as follows: president, J. Walter Saybolt, Standard Oil Company of New Jersey; vice-president, John C. Wolke, L. Sonneborn Sons, Inc.; secretary, Joseph C. Smith, Smith-Weihman Company; treasurer, Philip C. Meon, Borne-Scrymser Company; and directors, Charles V. Bacon; Philip C. Meon; W. M. Osborn, of Zimmerman, Alderson, Carr Company; J. F. Renick, of Renick & Mahoney, Inc.; L. A. Ryan, of Fiske Brothers Refining Company; J. Walter Saybolt; Joseph C. Smith; Rudolph G. Sonneborn, of L. Sonneborn Sons, Inc.; Albert J. Squier, of Diamond Products Company; Edwin Stern, of Louis Stern Sons, Inc.; George Suraud, of Chelsea Oil & Supply Company; Clifford T. Weihman, of Smith-Weihman Company; and John C. Wolke, of L. Sonneborn Sons, Inc.

—o—

Darco Sales Corp., New York, manufacturers of activated carbons for use in the oil, fat, glycerin and allied fields, have moved their offices to the 14th floor of the Lincoln Building, 60 E. 42nd St., where larger space has been occupied.

—o—

A new type air-tight closure for collapsible tubes has been introduced by F. J. Stokes Machine Co., Philadelphia, which is said to seal tubes hermetically. Seepage of oils, alcohol, glycerin and and similar products is said to be completely eliminated.

—o—

A new building has recently been added to the plant of Dodge & Olcott Co., essential oils and aromatics, at Bayonne, N. J. Expansion in the aromatic chemical manufacturing department made necessary the increase in facilities.

SHERKA

CAMPHOR

SYNTHETIC

MADE FROM AMERICAN TURPENTINE

Terpineol, C. P.
WATER WHITE

Menthol Crystals
SYNTHETIC

Thymol, U. S. P.
PRIME WHITE CRYSTALS

PRODUCTS OF SCHERING-KAHLBAUM, A. G., BERLIN

SHERKA CHEMICAL CO. INC.

75 WEST STREET • NEW YORK
TELEPHONE · BOWLING GREEN 9-7482

for your soap products—

STAUFFER BRAND

Caustic Soda

"STAUFFER BRAND" Caustic Soda can be supplied either solid or liquid, in drums or tank cars. It is uniform, pure and worth while using in your soap products. Send your next Caustic Soda inquiry to us.

also makers of Carbon Tetrachloride *for cleaners*

STAUFFER CHEMICAL COMPANY

Plants
Niagara Fall, N. Y.
Los Angeles, Cal.

Office
420 Lexington Ave.
New York City

CURRENT PRICE QUOTATIONS

As of March 7, 1934

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums....lb.	.08½	.10
Acid, Boric, bbls., 99½%....ton	95.00	100.00
Cresylic, 97% dk., drums....gal.	.42	.45
97-99%, pale, drums....gal.	—	.45
Oxalic, bbls....lb.	.11	.11¼
Adeps Lanae, hydrous, bbls....lb.	.14	.15
Anhydrous, bbls....lb.	.15	.16
Alcohol, Ethyl, U. S. P., bbls....gal.	2.45	2.59
Complete Denat., No. 5, drums., ex. gal.	.34	.42
Alum. Potash lump....lb.	.03	.03¼
Ammonia Water, 260, drums, wks....lb.	.02½	.02¾
Ammonium Carbonate, tech., bbls....lb.	.08	.12½
Bleaching Powder, drums....100 lb.	1.75	2.35
Borax, pd., cryst., bbls., kegs....ton	50.00	55.00
Carbon Tetrachloride, car lots....lb.	—	.05¼
L. C. L....lb.	.06	.08½
Caustic, see Soda Caustic, Potash Caustic		
China Clay, filer....ton	10.00	25.00
Cresol, U. S. P., drums....lb.	.09	.10
Creosote Oil....gal.	.11½	.12½
Feldspar....ton (200 to 325 mesh)	14.00	15.00
Formaldehyde, bbls....lb.	.06	.07
Fullers Earth....ton	15.00	24.00
Glycerine, C. P., drums....lb.	.12	.12¼
Dynamite, drums....lb.	.11¼	.12
Saponification, drums....lb.	.07¾	.08
Soaps, Lye, drums....lb.	.07¼	.07½
Hexalin, drums....lb.	—	.30
Kieselguhr, bags....ton	—	35.00
Lanolin, see Adeps Lanae.		
Lime, live, bbls....per bbl.	1.70	2.20
Mercury Bichloride, kegs....lb.	.93	1.08
Naphthalene, ref. flakes, bbls....lb.	.06	.07¼
Nitrobenzene (Myrbane) drums....lb.	.09½	.11
Paradichlorbenzene, bbls., kegs....lb.	.16	.25
Paraformaldehyde, kegs....lb.	.38	.39
Petrolatum, bbls. (as to color)....lb.	.01⅞	.06¾
Phenol, (Carbolic Acid), drums....lb.	.14¼	.16
Pine Oil, bbls....gal.	.59	.65
Potash, Caustic, drums....lb.	.07⅛	.07½
Flake....lb.	.08	.08¼
Potassium Bichronate, casks....lb.	.08⅛	.08⅝
Pumice Stone, powd....100 lb.	2.50	4.00
Rosins (600 lb. bbls. gross for net)—		
Grade B to H, basis 280 lbs....bbl.	5.50	6.45
Grade K to N....bbl.	6.50	6.50
Grade WG and WW....bbl.	6.55	6.50
Wood....bbl.	5.93	6.26
Rotten Stone, pwd. bbls....lb.	.02½	.04½
Silica, Ref., floated....ton	18.00	22.00
Soap, Mottled....lb.	.04⅛	.04⅜
Olive Castle, bars....lb.	.09	.12
powder....lb.	.17	.22
Olive Oil Foot....lb.	.04½	.06
Powdered White, U. S. P....lb.	.16	.20
Green, U. S. P....lb.	.06½	.08
Tallow Chips....lb.	.06	.06½
Whale Oil, bbls....lb.	.05	.06
Soda Ash, contract, wks, bags, bbls. 100 lb.	1.23	1.50
Car lots, in bulk....100 lb.	—	1.05
Soda Caustic, Cont., wks., sld....100 lb.	—	2.60
Flake....100 lb.	—	3.00
Liquid, tanks....100 lb.	—	2.25
Soda Sal., bbls....100 lb.	1.10	1.35
Sodium Chloride (Salt)....ton	11.40	14.00
Sodium Fluoride, bbls....lb.	.07½	.09¼
Sodium Hydrosulphite, bbls....lb.	—	.22
Sodium Silicate, 40 deg., drum....100 lb.	—	.80
Drums, 60 deg. wks....100 lb.	—	1.65
In tanks, 15c. less per hundred, wks.		
Tar Acid Oils, 15-25%....gal.	.20	.24
Trisodium Phosphate, bags, bbls....lb.	.03	.0355
Zinc Oxide, lead free....lb.	.06	.06¼
Zinc Stearate, bbls....lb.	.18	.19

Oils—Fats—Greases

Castor, No. 1, bbls....lb.	.10¼	.11
No. 3, bbls....lb.	.09¾	.10½
Coconut		
Ceylon, Coast Tanks....lb.	.02⅜	.02⅝
Cochin, barrels, N. Y....lb.	.04¼	.04½
Manila, tanks, N. Y....lb.	.02¾	.02⅞
Tanks, Pacific coast....lb.	.02½	.02¾
Cod, Newfound, bbls....gal.	.40	Nom.
Copra, bulk, Coast....lb.	...	.0127
Corn, tanks, mills....lb.	.04⅞	.05
Bbls., N. Y....lb.	.05⅞	.06
Cottonseed, crude, tanks, mill....lb.	.04¼	.04⅜
PSY....lb.	—	Nom.
Degras, Amer., bbls....lb.	.02¾	.04
English, bbls....lb.	.03¾	.04
German, bbls....lb.	.03½	.03¾
Neutral, bbls....lb.	.07	.08½
Greases, choice white, bbls., N. Y....lb.	.03½	.04
Yellow....lb.	.03¼	.03⅜
House....lb.	.03¼	.03⅜
Lard, prime, steam, tierces....lb.	.06⅞	.07
Compound tierces....lb.	.07½	.07¾
Lard Oil,		
Extra, bbls....lb.	—	.07¾
Extra, No. 1, bbls....lb.	—	.07½
No. 2, bbls....lb.	—	.06½
Linseed, raw, bbls., spot....lb.	.0930	.0970
Tanks, raw....lb.	—	.0870
Boiled, 5 bbls. lots....lb.	—	.1050
Menhaden, Crude, tanks, Balt....gal.	.15	.17
Oleo Oil, No. 1, bbls., N. Y....lb.	—	.06⅛
No. 2, bbls., N. Y....lb.	—	.05⅜
Olive, denatured, bbls., N. Y....gal.	.86	.88
Foots, bbls., N. Y....lb.	.06½	.06⅝
Palm....lb.	.03½	.03¾
Palm Kernel, casks, denatured....lb.	.04¼	Nom.
Peanut, domestic tanks....lb.	.04¾	Nom.
Red Oil, distilled, bbls....lb.	.07	.07⅝
Saponified, bbls....lb.	.07	.07⅝
Tanks....lb.	—	.06
Soya Bean, domestic tanks, N. Y....lb.	—	.06½
Stearic Acid		
Double pressed....lb.	.09½	.10
Triple pressed, bgs....lb.	.12¼	.12¾
Stearine, oleo, bbls....lb.	.05¾	.05⅞
Tallow, special, f. o. b. plant....lb.	—	.03⅜
City, ex. loose, f. o. b. plant....lb.	—	.03½
Tallow, oils, acidless, tanks, N. Y....lb.	—	.06¾
Bbls., c/l, N. Y....lb.	—	.07¼
Whale, crude....lb.	.03½	.04
refined....lb.	.06¾	.07

SHIP YOUR SOFT PASTE SOAP IN BENETCO STEEL DRUMS

They provide safe delivery — and their practical utility insures customer satisfaction.

The Benetco Bolted Cover Drum is used extensively for soft soap, polishes, fats and greases. It provides full accessibility for removing the contents and it can be easily and securely re-sealed.

This drum with a threaded opening is ideal where a solutionizer is used. The opening for this attachment may be placed as desired.

Benetco steel containers are made in 1 to 65 gallon sizes and in every practical type for the shipment, processing, and storage of soap products, chemicals, disinfectants, and insecticides.

Write for Prices and Complete Information on these Steel Containers for Your Products—No Obligation.

WILSON & BENNETT MFG. COMPANY

GENERAL OFFICES AND FACTORY—6528 SO. MENARD AVE., CHICAGO

Eastern Office and Factory
353 Danforth Ave.
Jersey City, N. J.
Phones—Delaware 3-4700 Cortlandt 7-0231

NRA MEMBER U.S. WE DO OUR PART

Southern Office and Factory
Coretz and Bienville Sts.
New Orleans, La.
Phone—Galvez 2171

Sales Offices and Warehouses in Principal Cities

for 96 years

Importers Dealers Brokers

We have been supplying raw materials to the Soap and Allied Industries

OLIVE OIL, all grades
OLIVE OIL FOOTS

Fatty Acids, Animal and Vegetable
Cottonseed Soapstock **Boiled-down Cottonseed Soap**

Neatsfoot Oil
Coconut Oil
Cottonseed Oil
Palm Kernel Oil
Stearic Acid
Oleo Stearine
Soya Bean Oil
Palm Kernel Oil (English or German Denatured)

Rapeseed Oil (Undenatured)
Castor Oil
Sesame Oil
Lard Oil
Palm Oil
Corn Oil
Peanut Oil
Grease (Animal)

Tallow
Red Oil
Soap Colors
Chlorophyll
Soda Ash
Sal Soda
Talc

Trisodium Phosphate
Caustic Potash
Carbonate Potash
Bath Powder
Modified Soda
Caustic Soda
Silicate of Soda
Meta Silicate and Metso

"CEREPS" *Superfatting Neutralizing Agent*

Write for Information and Samples.

WELCH, HOLME and CLARK CO., Inc.

563 Greenwich St. **New York City**

Established 1838

Essential Oils

Almond, Bitter, U. S. P.	lb.	$2.00	$2.50
Bitter, F. F. P. A.	lb.	2.25	2.75
Sweet, cans	lb.	.60	.65
Anise, cans, U. S. P.	lb	.39	.45
Apricot, Kernel, cans	lb.	.24	.26
Bay, tins		1.30	1.50
Bergamot, coppers	lb.	1.50	1.90
Artificial	lb.	1.00	1.20
Birch Tar, rect., tins	lb.	.75	.80
Crude, tins	lb.	.13	.14
Bois de Rose, Brazilian	lb.	1.20	1.30
Cayenne	lb.	2.50	2.90
Cade, cans	lb.	.26	.30
Cajuput, native, tins	lb.	.50	.60
Calamus, tins	lb.	3.25	3.50
Camphor, Sassy, drums	lb.	.15	.17
White, drums	lb.	.18	.19
Cananga, native, tins	lb.	2.00	2.05
Rectified, tins	lb.	2.50	2.55
Caraway Seed	lb.	2.00	2.25
Cassia, Redistilled, U. S. P.	lb.	1.10	1.15
drums	lb.	—	1.00
Cedar Leaf, tins	lb.	.65	.70
Cedar Wood, light, drums	lb.	.27	.28
Citronella, Java, drums	lb.	.40	.45
Citronella, Ceylon, drums	lb.	.34	.35
Cloves, U. S. P., cans	lb.	.95	.96
Eucalyptus, Austl., U. S. P., cans	lb.	.27	.28
Fennel, U. S. P., tins	lb.	1.10	1.20
Geranium, African, cans	lb.	6.00	7.50
Bourbon, tins	lb.	5.50	6.50
Hemlock, tins	lb.	.65	.75
Lavender, U. S. P., tins	lb.	2.35	6.00
Spike, Spanish, cans	lb.	.78	.83
Lemon, Ital., U. S. P.		1.00	1.40
Lemongrass, native, cans	lb.	1.00	1.10
Linaloe, Mex., cases	lb.	1.15	1.25
Nutmeg, U. S. P., tins	lb.	1.20	1.35
Orange, Sweet, W. Ind., tins	lb.	1.25	1.40
Italian cop	lb.	1.10	1.70
Distilled	lb.	.55	.60
Origanum, cans, tech	lb.	.25	.50
Patchouli	lb.	2.75	3.00
Pennyroyal, dom	lb.	2.00	2.05
Imported	lb.	1.35	1.70
Peppermint, nat., cases	lb.	2.50	2.75
Redis., U. S. P., cases	lb.	2.75	3.00
Petit Grain, S. A. tins	lb.	1.20	1.25
Pine Needle, Siberian	lb.	.72	.80
Rose, Natural	oz.	5.50	18.00
Artificial	oz.	2.00	3.00
Rosemary, U. S. P., tins	lb.	.32	.38
Tech., lb. tins	lb.	.28	.30
Sandalwood, E. Ind., U. S. P.	lb.	5.75	6.00
Sassafras, U. S. P.	lb.	.75	1.00
Artificial	lb.	.30	.31
Spearmint, U. S. P.	lb.	1.15	1.35
Thyme, red, U. S. P.	lb.	.50	.80
White, U. S. P.	lb.	.80	1.00
Vetivert, Bourbon	lb.	6.50	8.50
Java	lb.	16.00	20.00
Ylang Ylang, Bourbon	lb.	4.60	7.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.50	$2.25
Amyl Cinnamic Aldehyde	lb.	3.50	4.25
Anethol	lb.	1.00	1.10
Benzaldehyde, tech	lb.	.60	.65
U. S. P.	lb.	1.10	1.30
Benzyl, Acetate	lb.	.60	1.00
Alcohol	lb.	.75	1.15
Citral	lb.	1.90	2.20
Citronellal	lb.	2.25	2.50
Citronellol	lb.	2.55	3.00
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	3.10	3.30
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	1.05	1.25
Eucalyptol, U. S. P.	lb.	.55	.65
Eugenol, U. S. P.	lb.	2.00	2.50
Geraniol, Domestic	lb.	1.25	2.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	2.50	4.00
Heliotropin	lb.	1.85	2.10
Hydroxycitronellal	lb.	3.50	9.00
Indol, C. P.	oz.	2.00	2.50
Ionone	lb.	3.60	6.50
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	1.65	2.25
Linalyl Acetate	lb.	3.00	4.25
Menthol	lb.	3.50	3.60
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.15	3.20
Paracresol	lb.	4.50	6.00
Salicylate, U. S. P.	lb.	.40	.45
Musk Ambrette	lb.	5.75	6.00
Ketone	lb.	6.25	6.50
Moskene	lb.	5.00	6.00
Xylene	lb.	2.00	2.50
Phenylacetaldehyde	lb.	4.00	6.50
Phenylacetic Acid, 1 lb., bot.	lb.	3.00	4.00
Phenylethyl Alcohol, 1 lb. bot.	lb.	4.25	4.50
Rhodinol	lb.	5.75	8.00
Safrol	lb.	.28	.30
Terpineol, C. P., 1,000 lb. drs.	lb.	.33	.35
Cans	lb.	.36	.37
Terpinyl Acetate, 25 lb. cans	lb.	.80	.90
Thymol, U. S. P.	lb.	1.40	1.50
Vanillin, U. S. P.	lb.	4.50	5.75
Yara Yara	lb.	1.30	2.00

Pyrethrum Products

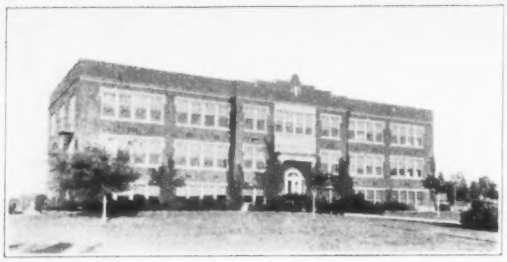
Insect powder, bbls.	lb.	.34	.36
Concentrated Extract			
5 to 1	gal.	1.90	2.00
15 to 1	gal.	5.66	5.74
20 to 1	gal.	7.55	7.65
30 to 1	gal.	11.10	11.25

Gums

Arabic, Amb. Sts.	lb.	.08¼	.08¾
White, powdered	lb.	.12½	.14
Karaya, powdered No. 1	lb.	.10	.11
Tragacanth, Aleppo, No. 1	lb.	1.00	1.05
Sorts	lb.	.11	.12

Waxes

Bees, white	lb.	.32	.35
African, bgs	lb.	.20	.22
Refined, yel	lb.	.22	.26
Candelilla, bgs	lb.	.13	.14
Carnauba, No. 1	lb.	.35	.36
No. 2, Yel.	lb.	.34	.35
No. 3, Chalky	lb.	.20	.31
Ceresin 156-165 deg	lb.	.29	.30
Paraffin, ref. 125-130	lb.	.03⅜	.04½



Now You Can Sell Federal Gym Finish *in 7 Beautiful Shades*

Gym Finish Concentrated Base Colors make possible this revolutionary step forward. They are different and unique and when intermixed with Gym Finish make a product unequaled for beauty of finish and durability when used on cement, concrete, wood, metal, linoleum, wall and plaster boards and plaster surfaces.

The same features of durability, penetration, excellent covering, ease and economy in application of Gym Finish are retained plus the added advantage of a selection of colors. The Concentrated Base Colors are finely ground and when intermixed according to direction make a product far longer wearing than the usual cement and floor paints heretofore available.

APPLIED WITH A MOP

On large surfaces, application is simplified and economical because Gym Finish Colors can be applied with a mop. On certain types of surfaces they can be adjusted for brush application.

NOW A NEW AND BIGGER MARKET AWAITS YOU

The tremendous market for Gym Finish is now increased many fold with Concentrated Base Colors. A new and greatly enlarged opportunity for sales and profits.

Gym Finish Base Colors are a product of the Federal Varnish Company, world's largest producer of floor preservatives and finishes selling in bulk.

Cash in on this opportunity to expand your business. Write for prices and complete information.

Federal Varnish Company

337 South Peoria St., Chicago, Illinois

WARNER *Quality*

PIONEERED FOR NEARLY 50 YEARS

CAUSTIC SODA

HIGHEST GRADE
(ELECTROLETIC)

IN EITHER
SOLID OR LIQUID
FORM

CARBON TETRACHLORIDE

REDISTILLED
WATER-WHITE

SUPPLIED ALSO
IN COMBINATION WITH
OTHER SOLVENTS TO MEET
INDIVIDUAL REQIREMENTS

TRI-SODIUM PHOSPHATE

FINE GRANULAR AND
POWDERED

A FREE FLOWING AND NON-CAKING
PRODUCT NATIONALLY KNOWN
FOR ITS UNIFORM QUALITY

An opportunity to submit samples and quotations is solicited

WARNER CHEMICAL COMPANY

Pioneer Producers 1886

CHRYSLER BUILDING
NEW YORK CITY

155 E. SUPERIOR ST.
CHICAGO

70 RICKARD ST.
SAN FRANCISCO

EXCLUSIVE SALES AGENTS for WESTVACO CHLORINE PRODUCTS, Inc.

Soap Consumption and Hard Water

(*From Page 23*)

cated by letters from all parts of the United States and from foreign countries.

Effects Upon Soap Industry

THE chief interest of the soap industry in the study lies in the influence the data presented may have on the development of soft water projects for city water supply and on the use of household water softeners. It is hardly to be expected that any economic fact presented to the public will be acted upon immediately by any large portion of the group or groups it may concern. While the soap industry serves the whole country, hard water affects only certain sections. Even a widespread movement to obtain soft water would affect soap sales only in those sections.

It seems doubtful whether the use of soft water will increase any more rapidly than the total population of the country increases. If that is true, soap production will not decrease. The effect will be simply to retard the growth of that industry below the increase it would enjoy with a continuation of the present rate of growth of that portion of the population using hard water. Manufacturers of household water softeners are not likely to find their sales in general greatly affected by the facts here presented. Their market is probably so far from saturation that the publicity given the value of soft water through the installation of municipal water softening plants in the larger towns and cities may increase the demand for home softeners in other cities.

Of economic significance, apart from their connection with the present problem, are two facts that seem deserving of brief mention. The first is that Reilly's "Law" of retail gravitation has been tested by actual field survey and confirmed in so far as the data obtained may be considered a confirmation. The book expounding that law ("Law of Retail Gravitation" by W. J. Reilly) was published shortly after the present investigation was begun and had not had time to be subjected to test by other workers. No data available or method proposed seemed to present as scientific and accurate a solution to the problem of trading area as did this law of retail gravitation. Since it was new, however, it seemed advisable to test it in the territory covered by the data with which it was to be used.

The second fact of importance, apart from its direct connection with this study, is that the quantitative data showing the per capita domestic consumption of soap are the first data on that point that have ever been presented, in so far as it has been possible to determine. These data furnish the starting point for the main problem of the thesis, the economic effects of quality of water, with special reference to soap consumption in the home.

A pure, brilliant white, free-flowing material of uniform high quality and superior mechanical condition. Available in four grades: chip, flake, fine and powdered.

VICTOR CHEMICAL WORKS
141 W. Jackson Blvd., Chicago, Ill.

Another advantage of the packaged cleanser made from

VICTOR TSP

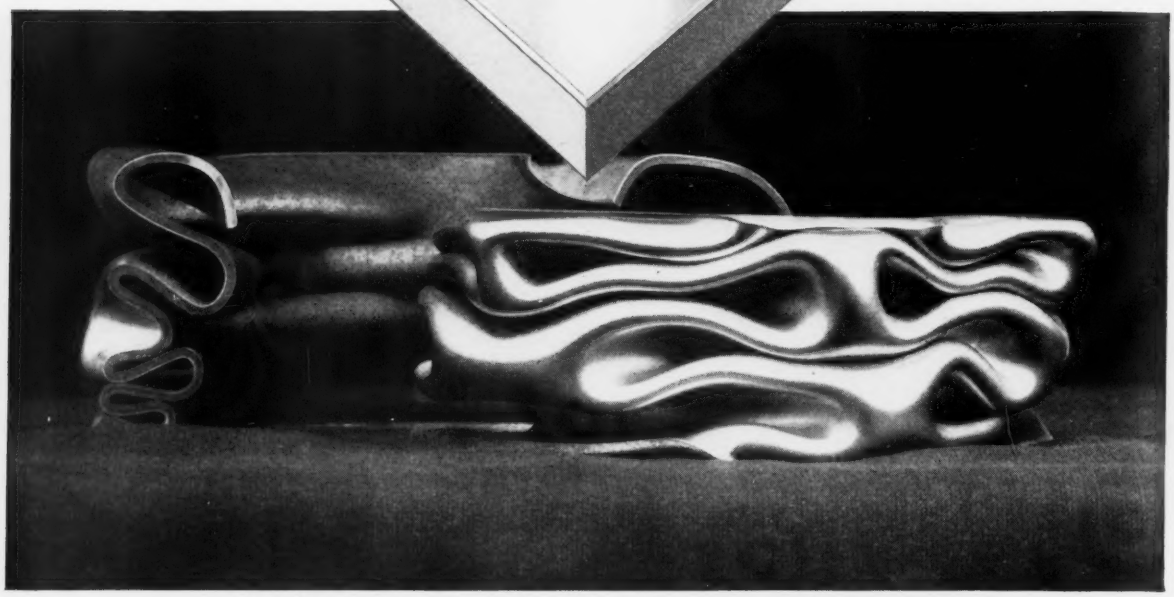
Makes Glassware Sparkle

THERE'S usually a chorus of "ohs" and "ahs" sung by the housewife on first becoming acquainted with the packaged cleanser made from Victor Tri Sodium Phosphate. T. S. P. gives a characteristic sparkle to glassware that can't be duplicated by other cleansers . . . a fact that is worth telling housewives about.

Salesmaking Data on Request

Complete, laboratory data covering the many advantages of Victor Tri Sodium Phosphate will gladly be supplied on request. Packagers of this popular household cleanser will find the information of considerable value in preparing sales promotion material and advertising campaigns.

Here's a Stainless Clad Plate that will take Punishment



Notice there is no separation of the stainless steel veneer from the backing plate in either inside or outside bends. You can work Plykrome without danger of fault or defect.

Plykrome is unique in its resistance to splitting or separation of the stainless steel veneer from the base plate. It may be worked as you would work an ordinary carbon steel. It may be welded without subsequent heat treatment.

This outstanding superiority of Plykrome is due to the use of a special metallic bond sheet between the stainless steel veneer and the base plate. The two metals are effectively bonded by an intermediary alloy formed by the bond sheet. Plykrome is the only stainless clad plate embodying this important principle of fabrication.

For many applications where corrosion resistance is required only on one side, Plykrome is practical, workable, and economical.

For detailed information on the application of Plykrome to corrosion resistance problems, consult our representatives.

USS

Illinois Steel Company

208 S. LA SALLE STREET, CHICAGO, ILLINOIS

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PLYKROME

U S S CHROMIUM-NICKEL ALLOY STEELS ARE PRODUCED UNDER LICENSES OF THE CHEMICAL FOUNDATION, INC., NEW YORK, AND FRIED. KRUPP A. G. OF GERMANY

PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps, published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries*.

Persulfate Soap Bleaching

By PAUL I. SMITH

THE main good points of a persulfate bleach are (1) economical in use, (2) reliable and swift in action, and (3) bleaching can be readily controlled. Potassium persulfate is a powerful oxidizing agent, but its application in the soap industry on a commercial scale dates back only to more recent years. In aqueous solution, persulfates react to form oxygen, a sulfate and free sulfuric acid.

$$2K_2S_2O_8 + 2H_2O = 2Ka_2SO_4 + 2H_2SO_4 + O_2$$

Owing to the limited solubility of the potassium salt, one part of which requires 56 parts of water at 0°C. for solution, there is considerably less liability of extra concentrated liquors being added to the soap through carelessness on the part of the staff. The liberation of oxygen which takes place in solution at normal temperatures is greatly accelerated by boiling the liquid. Temperature control is of the utmost importance, as by increasing or lowering the temperature of the soap liquor it is possible to vary the bleaching.

When the bleach is first added, the temperature of the kettle should be not more than 80° C., and shortly afterwards this figure should be increased to 100° C. and maintained at that level for two to three hours. A very good arrangement is to allow the soap to stand overnight, then to add the bleaching solution in portions during a quarter of an hour with vigorous stirring. The mixture is then boiled. In cases where it is not possible to leave the soap to cool overnight, and to boil it again the following morning, it is desirable to bleach the soap while boiling, and a good proportion of cold water, about 10 to 20 times its weight, should be added to the persulfate in order to reduce the evolution of oxygen so that uniform oxidation takes place, and intense local action is avoided.

Local oxidation of the soap often means that certain portions of the kettle become dark, and in some cases the entire contents may be affected. Treatment with a reducing compound, such as sodium hydrosulfite, may improve such a condition, but usually great difficulty is experienced in rendering it light enough for making up purposes. The safest and indeed the best way to reduce excessive local oxidation is to use the minimum quantity of persulfate. European experience indicates that 0.2% is very often sufficient to bring about the desired bleaching action. If the quantity of persulfate used proves inadequate, then it is possible to bleach the soap again, and in the case of curd soap, this is sometimes the wisest procedure. The plan to adopt in the case of re-bleaching soap is to salt out the soap, the dirty lye being drawn off two hours later, during which time at least four-fifths of the lye will have separated. The soap is then closed, and treated with alkali till quite caustic, when the second bleaching treatment commences.

When greater quantities than 0.2% are employed, it is advisable to test the soap for free oxygen before discontinuing boiling. A representative sample is taken in a beaker, decomposed with dilute sulfuric acid and filtered. The filtrate is tested with starch-potassium iodide paper, and if the blue coloration is obtained, further boiling is necessary. As regards the efficiency of continued boiling to remove free oxygen, several workers have differed in their conclusions, but practical soap

boilers invariably adopt this method in works practice. Relatively small quantities of zinc oxide assist the bleaching operation, and tend to prevent excessive oxidation. It is impossible to formulate any definite rules regarding the extent of boiling, but generally if only 0.1 to 0.2% persulfate is used, vigorous boiling for at least 1½ hours is necessary, but if more persulfate is employed, then the boiling will have to be continued for 2-3 hours, if not more.

The violence of the oxidizing action may be reduced by the addition of soap to the persulfate solution. A large wooden cask is placed near the kettle, and half filled with hot soap, then cooled to 50°-60° C., by the addition of very weak caustic. The freshly prepared persulfate solution made by mixing the requisite amount of the chemical with 5-10 parts of cold water is crutched into the soap liquor in the barrel. This oxidizing mixture is then stirred into the kettle, and the mass well agitated.

The condition of the soap before the addition of the bleach is of great importance as influencing the final color of the soap. A strongly fitted soap is necessary as the free alkali neutralizes the free sulfuric acid formed during oxidation. If the soap has been fitted in the usual way, concentrated caustic must be added at the same time as the persulfate. Unsuccessful bleaching of the soap, in the case of soaps on spent lye, may sometimes be traced to the physical condition of the soap. A coarse grained structure of soap allows the persulfate to pass quickly through it into the lye, where it serves no useful purpose, and indeed may prove harmful. Soaps boiled on nigre are in a better condition for bleaching than those on spent lye, as the grains of salted soaps tend to flow together. The finished soap is therefore more homogeneous, and holds the persulfate longer.

The only sound method of bleaching with potassium persulfate is to work out a system or method of working for a particular soap by a succession of careful trial experiments. The following points are well worth noting, as they indicate the essential features of a sound and economic method of using this bleach:

1. A minimum quantity of potassium persulfate should be employed. This naturally depends upon the condition of the fats used in the manufacture of soap and it is necessary for the soap boiler to find by experiment the optimum percentage. One per cent of bleach should not be exceeded, as above this figure the danger of excessive oxidation is particularly great. It is preferable to employ double bleaching rather than a single action with a large quantity of chemical.
2. The bleach should preferably be added to soap liquor and water in a separate container, and thoroughly mixed before running into the kettle.
3. The soap should be alkaline before addition of the persulfate, and preferably in a finished condition, a good crutching arrangement being used to work in the bleach. In the case of large kettles devoid of agitators, it is recommended to add the chemical to the strongly alkaline soap just before salting out, and to boil long enough to obtain the requisite separation. In this latter case, it is essential that no free persulfate is present when the salt is added, otherwise chlorine gas will be evolved. If this happens, considerable difficulty will be experienced in removing the objectionable odor from the treated soap, and a number of very thorough washings will have to be undertaken. The electrometric method of hydrogen ion estimation may be usefully employed to test the alkalinity of soap liquors before entry of the bleach. A comparator method using the usual indicators has also been used to advantage.

——o——

A washing test imitating factory conditions utilizes standardized pieces of fabrics. These pieces are formed into sacks and filled with 15 grams of glass beads. They are soiled in 3 different standardized ways, washed in rotating drums with soap solutions of definite concentration, rinsed 3 times, dried, ironed and tested for whiteness in a photometer. A soiled test piece washed only in distilled water is used as a standard. The detergent power is expressed as a ratio of soap cleansing action to distilled water cleansing action. By Tyutyunnikov and A. Soboli. *Seifensieder Ztg. 60*, 787-9, 808-9.

——o——

Fatty acids and technically useful salts or salt solutions may be obtained by saponifying the oxidation products of hydrocarbons. The mixture is then treated with dilute nitric acid below 100° C. The nitric acid is led into the aqueous soap solution from below and is not allowed to come into contact with the upper fatty acid layer. Christoph Beck and Heinrich Diekmann to I. G. Farbenind. A.-G. German Patent No. 578,779.

——o——

Color of the wrapper used for toilet soap has a direct relationship to loss of aroma by the soap. When exposed to direct sunlight for 4 to 6 weeks, soap in green or black wrappers retains its scent; in violet, blue, yellow or red wrappers an increasing amount of it is lost in the order named. Pine needle oil and gaultheria (wintergreen) are among the more permanent of the essential oils. In cold-made soaps, the addition of lard or refined castor oil seems to destroy the original coconut oil aroma in either sunlight or diffused light more quickly than the addition of olive oil, although analysis shows no change in the soap. Very dry or very moist air is detrimental to aroma and surface appearance. Humidity of 70-75 per cent at 23° C. is recommended for unwrapped cold-made soaps. Among the injurious gases are carbon monoxide, carbon dioxide, sulfur dioxide, kettle vapors, etc. F. W. F. Freise. *Seifensieder Ztg. 60*, 833-4.

Sodium Metaphosphate

Its Use in Soluble Form as a Detergent Aid

A NEW detergent aid is making its appearance on the market in the form of sodium metaphosphate. As a chemical substance, this metaphosphate is not new, but as a commercial product in a soluble form designed for water softening and detergent uses, it is new. Its properties differ from those of other phosphates. The chemical formula for sodium metaphosphate is $NaPO_3$, while that of the trisodium phosphate is Na_3PO_4. The main usefulness of sodium metaphosphate is in its hard water resistance. It reacts chemically with calcium and magnesium salts to form soluble complex compounds. When calcium and magnesium soaps have been formed, sodium metaphosphate reacts to tie up the calcium or magnesium in a soluble product, and form sodium soap. An illustration of this has been given by practical tests carried out under the direction of B. A. Gilmore, Industrial Fellow of Mellon Institute. Sodium metaphosphate was added to the fifth hot rinse of a multiple-suds washing formula, in one of the regular lots being washed in a commercial laundry. Before the addition of the sodium metaphosphate, there had not been a soap bubble on the wheel. Within a few moments a suds commenced to develop, which grew until it overflowed the washer doors. After this rinse had been dumped, four additional rinses were necessary to remove the soap suds. This is of interest not only in illustrating the reaction of sodium metaphosphate with lime soaps, but in demonstrating the amount of these soaps deposited on clothes, even when washed with relatively soft water. The water used in the above experiments had been treated with a softening agent.

Practical tests have demonstrated several points in favor of the use of sodium metaphosphate as a detergent for commercial laundries. It is not intended to replace soap, but rather to remove insoluble soaps precipitated on the materials being washed. Quantitative experiments carried out at the American Institute of Laundering showed that the use of metaphosphate in the fourth suds of a five-suds formula permits the elimination of one hot rinse. A reduction of 50 per cent of bleach and of 31 per cent of soap was made possible. The reduction in the amount of bleach is emphasized as an important step in prolonging the life of the clothes being laundered.

Sodium metaphosphate in solution is practically neutral in reaction. A 1 per cent solution gives a pH value of 6.5 to 7. For use in soap baths a product containing an alkaline buffering material is recommended. The "adjusted" sodium metaphosphate in 1 per cent solution gives a pH of 8.0 to 8.5. This degree of alkalinity is so slight that it may be considered practically neutral, since it is the same as a phenolphthalein end-point, in titrating from the acid to the alkaline side. Due to its neutral reaction, sodium metaphosphate does not attack the fibers of silk, wool or rayon. Measurements of tensile strength after several washings showed that the change in tensile strength caused by washing with soap and metaphosphate was no greater than that produced by soap alone. Sodium metaphosphate does not cause fading of colored fabrics. Rather it tends to produce an effect in the opposite direction, as deposition of lime soaps cause colored materials to become somewhat dulled. Prevention of this tends to preserve the original brightness.

Special emulsifying power for grease has been demonstrated by the use of sodium metaphosphate in washing greasy overalls. It is effective as a detergent against grease, even without the use of soap or alkali. Besides its usefulness in laundering, sodium metaphosphate has been recommended to the textile trade. Its property of dissolving lime soaps and thus regenerating sodium soap is of importance in improving a scouring liquid. Use in wet-finishing, it gives brighter and clearer shades in subsequent dyeing operations. It is an assistant in bleaching, making possible a reduction in the amount of bleach used.

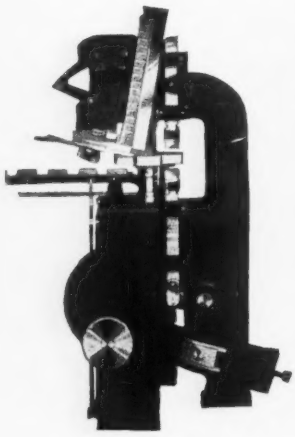
Because of its attack on grease, sodium metaphosphate has been recommended for washing paint, lacquer, varnish and enamels. It will not injure the finish and leaves a clean, streakless surface with very little effort. It cannot be used on wax finishes as it will attack the wax.

Sodium metaphosphate has the appearance of dry, broken glass. It dissolves in cold water, forming a thick heavy liquid. Because of this property the most efficient method of solution is to suspend a bag of the salt at the top of a tank, and leave it without stirring. The heavy solution sinks to the bottom as quickly as it is formed, leaving comparatively fresh water in contact with the solid. For practical purposes it is customary to make a concentrated solution of 2½ pounds of metaphosphate to 1 gallon of water, and use portions of the prepared solution as needed. Since the concentrated solution attacks most metals, it must be stored in wooden, crockery, rubber lined, or enamel vessels. It is not injurious to metal when used in dilute solution. Sodium metaphosphate is sold in 50-pound cartons, packed in two bags of 25 pounds each. The price is around twenty cents per pound, for either the straight sodium metaphosphate, or the "adjusted" product.

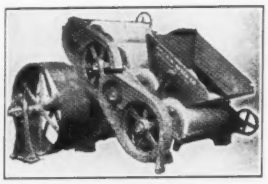
—o—

Patterson Foundry & Machine Co., East Liverpool, Ohio, announces that C. V. Murray has joined their New York branch. Mr. Murray served the New York territory for over thirteen years as sales engineer for the Robinson Manufacturing Co., Muncy, Pa.

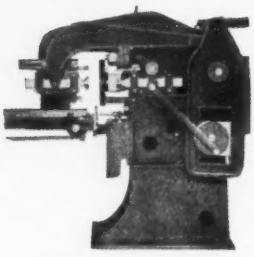
Special Offerings of SOAP MACHINERY *Completely Rebuilt!*



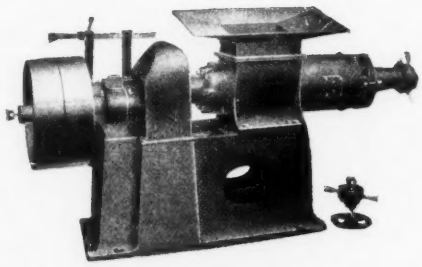
Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



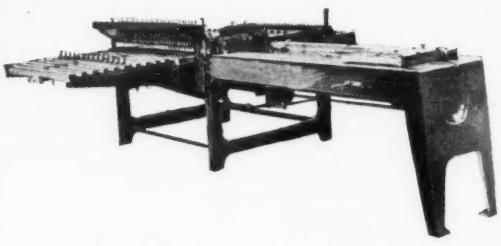
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables

NEW CRUTCHERS!

This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

ADDITIONAL USED SOAP MACHINERY

H-A 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
Ralston Automatic Soap Presses.
Scouring Soap Presses.
Empire State, Dopp & Crosby Foot Presses.
2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
H-A Automatic and Hand-Power slabbers.
Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Powder Mills.
J. H. Day Jaw Soap Crusher.
H-A 6, 8 and 10 inch Single Screw Plodders.
Allbright-Nell 10 inch Plodders.
Filling and Weighing Machines for Flakes, Powders, etc.
Steel Soap frames, all sizes.
Steam Jacketed Soap Remelters.
Automatic Soap Wrapping Machines.
Glycerin Evaporators, Pumps.
Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
Perrin 18 inch Filter Press with Jacketed Plates.
Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.
Day Pony Mixers.
Gardiner Sifter and Mixer.
Proctor & Schwartz large roll Soap Chip Dryers complete.
Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
Day Talcum Powder Mixers.
All types and sizes—Tanks and Kettles.
Ralston and H-A Automatic Cutting Tables.
Soap Dies for Foot and Automatic Presses.
Broughton Soap Powder Mixers.
Williams Crutcher and Pulverizer.
National Filling and Weighing Machines.

All used equipment rebuilt in our own shops and guaranteed first class condition.

Send us a list of your surplus equipment—we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 W. 35th ST.
CHICAGO

Our Forty Years Soap Experience Can Help Solve Your Problems

Action of Lecithin in Soaps

A STUDY of the cleansing action of a soap and the same soap containing lecithin reveals an improved emulsifying effect by the addition of lecithin. A series of experiments were recently carried out by E. L. Lederer and reported in *Seifensieder Zeitung*, Vol. 6, pg. 919, 1933. He remarks that much has appeared in the literature regarding the use of lecithin in soaps, but that most of it has been of a vague nature regarding specific uses of the soaps in question. He outlines his conclusions from the series of tests.

In the following experiments, the per cent of lecithin refers to the whole soap weight (but not of pure water-free soap). Soy bean lecithin is used in the proportion of 2/3 lecithin to 1/3 soy bean oil. The pure lecithin content would therefore be about 2/3 of the following percentages. First it is stated that if lecithin is added to the fatty mixture with subsequent saponification, no distinction between the properties of the soap with or without the addition of lecithin could be found. Obviously, a decomposition of the lecithin had occurred during the saponification.

Soaps to which lecithin had been added were observed for a year and no deepening in the original color was noted. Soap with the addition of 2, 4 and 6 per cent of lecithin showed no change in color and no appearance of rancidity specks after having been subjected to the rays of a strong ultra-violet lamp for two hours. Retention of water by the soap was increased to a very slight extent by the addition of lecithin. The addition of lecithin as much as 5 per cent had an insignificant effect on lowering the surface tension or the viscosity of the solution. The addition of lecithin increased the lathering quality of the soap about 20%, while the lathering stability was approximately lowered to the same extent.

Of more importance is the value of the increased cleansing action of lecithin soaps as determined by emulsifying action. This was investigated with a soap solution containing 0.2% pure soap content, at which concentration lies the optimum emulsifying action. This action was determined by two different observations. First, how many c.c. of oil can be kept emulsified with 1 c.c. of the aqueous soap solution (for at least two days) when the emulsion is kept under constant conditions? Second, how long is the emulsion stable—that is, what time does it take for the emulsion to separate? The greater numbers in each case indicate the more favorable emulsifying action under similar conditions. The emulsifying power was determined with two types of substances, an unsaponifiable oil as petroleum and a saponifiable oil as sesame.

	Petroleum		Sesame	
	Emulsifies	*Stability*	*Emulsifies*	*Stability*
0.2% Soap Solution	2.22 c.c.	25 Min.	3.1 c.c.	80 Min.
with 5% Lecithin	3.2 c.c.	30 "	3.4 c.c.	90 "

When other concentrations of soap solutions, both higher and lower, were tried with and without the addition of lecithin, the differences in the results could be considered within the experimental error.

Finally, the same experiments were carried out with soft soap. The results were similar to those observed with the use of hard soap. The comparative figures obtained are as follows:

	Petroleum		Sesame	
	Emulsifies	*Stability*	*Emulsifies*	*Stability*
0.2% Soap Solution	6.3 c.c.	30 Min.	5.8 c.c.	25 Min.
with 5% Lecithin	8.3 c.c.	28 "	6.3 c.c.	22 "

The physiological action of the addition of lecithin to soap is of great interest but relatively little is known about it. For a long time egg-yolk lecithin has been used with soap and its physiological action on the skin has been described. It is to be expected that soy bean lecithin will give the same favorable action.

Summarizing, it can be said that the addition of plant lecithin to soap enhances its cleansing action, produced by greater emulsifying power. Other physico-chemical properties are little changed. In particular, there is no increase in the tendency to rancidity. Super-fatting of soap with lecithin or in combination with other super-fatting materials does no harm and in fact is an advantage to its cleansing action.

—o—

Oragnic thiosulfates having saponaceous properties are prepared by the reaction of a thiosulfate with esters of alcohols or thioalcohols having at least 6 carbon atoms, and halogenated acids. An example is the product of reaction of sodium thiosulfate and dodecylchloroacetic ester. Henkel et Cie., G. m. b. H. British Patent No. 397,445.

—o—

Wetting, cleansing and dispersing agents are made by simultaneously sulfonating oleyl oleate and one or more fatty alcohols of high molecular weight such as cetyl or oleyl alcohol, in the presence of catalysts. Soc. anon. des matières colorantes et produits chimiques de Saint-Denis and Jean P. Sisley. French Patent No. 753,055.

—o—

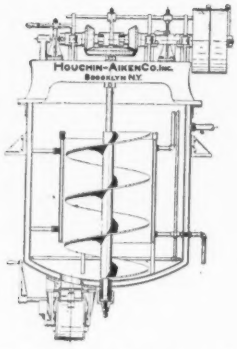
Wetting, bleaching, dispersing and impregnating agents are made by esterifying aliphatic alcohols of high molecular weight with boric acid, and sulfonating the esters with anhydrous sulfonating agents, without dissociating the boric acid groups. Ernest A. Mauersberger. French Patent No. 753,080.

—o—

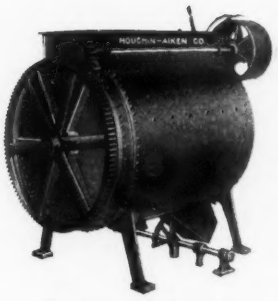
In extracting oil from triethanolamine soap-oil emulsions, fatty acid accompanies the extracted oil. Prolonged estration with a correction for the free fatty acid extracted, may be used. Frank M. Biffen and Foster Dee Snell. *Ind. Eng. Chem.*, Anal. Ed. 6, 78 (1934).

NEW and *USED*
HOUCHIN SOAP MACHINERY

Perfection Crutcher
Sliding Gate Valve



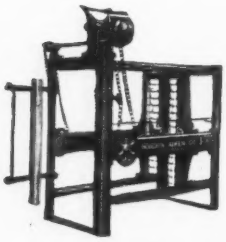
Perfection Crutcher Cross
Section View Plunger
Type Valve



Horizontal Crutcher

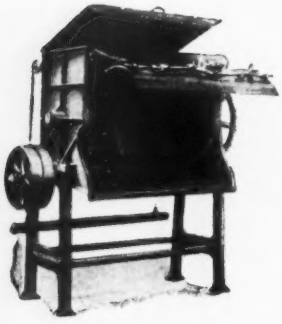
Empire State
Press

Standard
Soap Frame

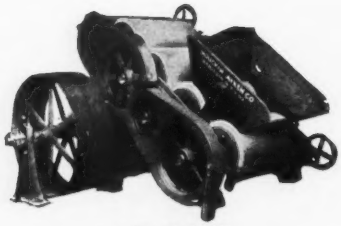


Automatic Power
Slabber

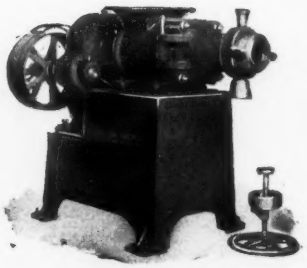
Automatic Power Cutting
Table



Ideal Amalgamator



4-Roll Mill
Mills built with 3 to 12 Chilled
Iron or Granite Rolls



Spur Gear 10" Screw Plodder
Plodders furnished with 2½"
to 12" screws.

Write Us For Information Regarding MILL-LESS Method for Making Toilet Soap

HOUCHIN MACHINERY CO., Inc.

FORMERLY HOUCHIN-AIKEN CO., INC.

HAWTHORNE, NEW JERSEY

ON PRODUCTS AND PROCESSES

Products resembling Turkey-red oils are prepared from unsubstituted unsaturated aliphatic and cycloaliphatic alcohols containing not less than 8 carbon atoms by treating with an acetylating agent and then a sulfonating agent. The final product is a sulfuric ester. For example, technical oleic alcohol is acetylated with acetyl chloride, sulfonated with sulfuric acid and neutralized, or fatty alcohols from sperm oil are treated with acetic anhydride and then with sulfuric acid. After prolonged treatment the product is boiled with water and hydrolysis completed with caustic soda. A hard wax is obtained which may be emulsified by means of soapy substances. If sulfonation is accomplished by means of chlorosulfonic acid the acetylating agent may be recovered as acetyl chloride. Deutsche Hydrierwerke. A.-G. British Patent No. 396,774.

—o—

Sodium petroselinate may be used as a soap. It is readily soluble in water at room temperature. The viscosity of a fresh aqueous solution is practically identical with that of sodium oleate at 20° C. in concentrations of 0.1 to 1.0 per cent. The surface tension of the solution is less than that of sodium oleate and greater than that of sodium elaidate above 45° C. Petroselinic acid will yield a soap as good as or better than sodium oleate in detergent action, as measured by suspending power for titanium oxide. This is probably related to its chemical structure, inasmuch as it has one double bond but a longer carbon chain than the oleate. Jiro Mikumo. *J. Soc. Chem. Ind.* Japan *36*, Sup., 632-3.

—o—

The lathering power of shaving soaps on the skin is not improved by adding up to 8 per cent of sodium lauryl sulfate, especially when using commercial products which contain a high percentage of sodium sulfate. The addition of 10 per cent of the alkyl sulfates may increase the stability of the soap toward hard water, but this effect can be obtained more cheaply with other preparations. Welwart. *Seifensieder Ztg.* 60, 872-3 (1933).

—o—

A naturally occurring earth produced by prehistoric volcanic phenomena is being used for the purification of oils. The material is called "Carlonit" and comes from the Karlsbad basin. It is basic in nature and possesses the property of removing fatty acids and oxyacids from oils, at the same time producing a decolorizing effect. It is very stable and more economical than activated earth. Carlonit possesess the property of absorbing very little oil and of filtering readily. It does not always purify very low grade oils, so that a preliminary test should be made on a small scale before applying it in large-scale operations. Raphael Fussteig. *Matières grasses*, 26, 10042-7 (1934).

—o—

The Twitchell mixed-melting-point method for individual saturated fatty acids present in commercial fats and fatty acid mixtures, has been developed so that the percentages of individual fatty acids present can be determined. Specific depression constants have been determined by measurements made on binary mixtures of pure acids, including seartic, palmitic, myristic and oleic. The proper depression constant to use in any particular analysis is readily calculated from the determined specific constants referred to. The method gives results reliable to within a few per cent. Robert N. Wenzel. *Ind. Eng. Chem.*, Anal. Ed. 6, 1-7 (1934).

—o—

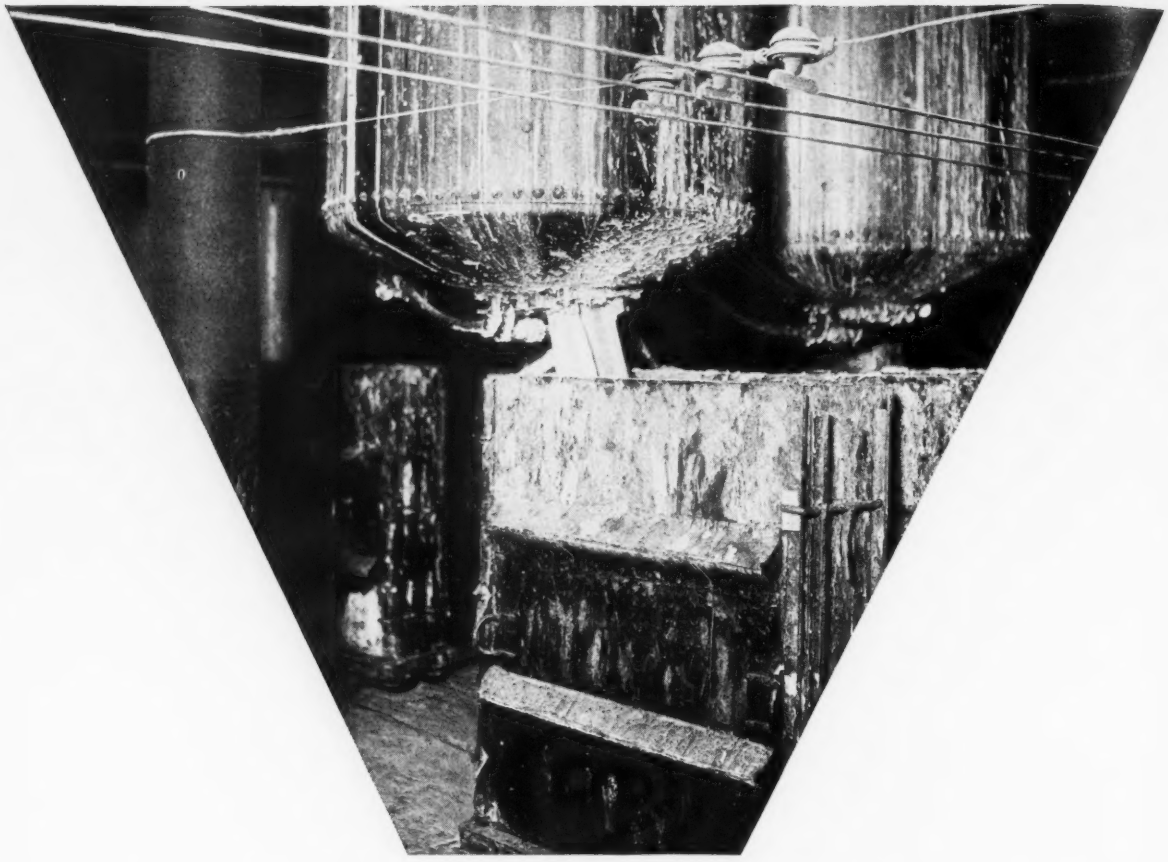
In the manufacture of floating soap with the use of aluminum, pure aluminum must be used. Commercial aluminum bronze is unsuitable, as it often contains small amounts of copper, which destroy the good appearance of the soap. This soap should not be prepared by the cold method, but warm, or even at boiling temperature. The evolution of hydrogen produced by the reaction of aluminum with alkali is complete in one-half to one hour, but is not violent enough for the hydrogen to escape. Unchanged aluminum particles cannot be detected if the hot method is used, but they might remain with the use of the cold method. H. Vohrer. *Seifensieder Ztg.* 61, 15 (1934).

—o—

Solutions having a high wetting power for textile fibers are obtained by neutralizing organic acid, sulfonated or not, with a suitable base. These organic acids may be obtained from the washing residues left from refining combustible liquids. Sulfates and sulfonates of organic acids are preferably added. An example is 97 per cent sodium sulfonaphthenate with 3 per cent ammonium ichthyolsulfonate. Gaëtan P. Lièvre. French Patent No. 751,422, dated September 4, 1933.

—o—

Products for use in degreasing, desizing, and dressing textiles and in bleaching, dyeing and mercerizing baths are obtained by sulfonating a mixture of fatty substance and solvents therefor and saponifying with alcoholic castic alkali at preferably below 70°. The products may be added to soaps. The sulfonated mixture may be neutralized with soda or ammonia before saponification. Solvents specified are benzene, turpentine, acetone, amyl acetate and those containing chlorine. R. Meunier, Brit. Pat. 394,843.



P. Q. SILICATES PERFORM

SOAP, smooth as sweet cream, pouring from the crutchers into the frames results from uniform raw materials, as well as from skillful practice. When your soap reaches the crutchers, with so much at stake, you must *know* that the silicate's right. Our own soap making experience years ago taught us the value of dependable quality silicate. That's why today P. Q. Silicates of Soda for the soap maker are accurately controlled, so that the soap from one crutcher or fifty of them will be up to your fixed standards. For uninterrupted, economical production, make a P. Q. Silicate of Soda your choice. And remember our catalog lists thirty-three grades; silicates of soda for sealing, for rust prevention, for treating concrete, as well as silicates for incorporation in soap itself.

PHILADELPHIA QUARTZ COMPANY

General Offices and Laboratory: 125 S. Third Street, Philadelphia, Penna.

Chicago Sales Office: 205 W. Wacker Drive. Stocks in 65 cities. Sold in Canada by NATIONAL SILICATES LTD., Toronto, Ontario

WORKS: Chester, Pa., Kansas City, Kans., Baltimore, Md., Rahway, N. J., Anderson, Ind., St. Louis, Mo., Buffalo, N. Y., Utica, Ill.

Soap With and Without Bleach

Three soaps of widely differing composition have been compared as to their efficiency in laundry practice. The first is a high fatty acid soap, the second a low fatty acid, and the third a low fatty acid soap containing bleaching agent, as shown in the following:

	Fatty Acid	*Na2O*	*Active Oxygen*
1. Sunlight soap	73.4%	8.9%	0%
2. Dr. Thompson's soap powder	29.7	20.2	0
3. Persil	30	19	1

In removing mineral stains 2 and 3 were equal in efficiency but not as good as 1. For vegetable oil stains all were equally good. For general stains such as cocoa, milk, wine, blood, 3 was better than 1 which was better than 2. Fat emulsifying powers of 3 were surprisingly high, considering its low fatty acid content. After 50 successive washings with each soap, fabric showed maximum loss of strength with 2. For these tests the fabric was put into a cold 1 per cent solution of soap, heated to boiling in a half hour, and maintained at the boiling temperature for another half hour. Surface tension—reducing properties of 3 were nearly equal to those of 1 and 2. K. Brauer. *Milliand Text.* Mo. 5, 111-4, 160-1, 246-7 (1933).

—o—

Determination of Free Alkali

The determination of free alkali may be very important, yet the usual analytical methods often lead to false results, because of the extremely small amount ordinarily determined. It is advisable to use 0.1 *N* or 0.5 *N* acid for titration rather than 0.01 *N*, and a burette which will deliver 5 drops per 0.1 cc. This is done in order to keep the amount of water and hence dissolved CO_2 to a minimum.

To test qualitively for free alkali, introduce 2 grams of finely divided dried sample into hot alcohol colored faintly red with phenolphthalein. To give this color a trace of alkali must be present. Dissolve by warming. If the red color deepens markedly on introducing the soap, and remains red after cooling and gelling, with the flask covered with a watch glass, free alkali is present. To determine the amount, titrate a dried weighed sample in hot, neutral, absolute alcohol, using as strong an acid as is consistent with accuracy. C. Bergell. *Seifensieder Ztg.* 61, 89-90 (1934).

—o—

One thousand kilograms of spermaceti oil are heated in a still to about 150 degrees C. Then, while the temperature rises above 200 degrees C., 50 degree Be. lye is added, until normal splitting of the spermaceti oil into soap and fatty alcohols takes place. The flow of alkali into the still is regulated so that excess is never more than one per cent. When the excess alkali does not change substantially after the operation has continued for some time, the end of saponification is concluded as having been reached. Dr. Carl Stiepel, Berlin-Charlottenburg, Germany. German Patent No. 524,366.

Hexalin Soaps

A few of the better recipes for Hexalin soaps are as follows: I. 25 kg. linseed or soy bean oil, 10 kg. caustic potash 50° Be., 12 kg. hexalin, 53 kg. water. This soap remains liquid.

II. 25 kg. crude lauric acid, 13 kg. caustic potash 50° Be., 25-40 kg. hexalin, 35-25 kg. water. By adding silicate, calcined soda ash, and caustic soda, syrup-like soaps may be prepared. More caustic soda must be added to give products resembling soft soap.

III. 40 kg. crude lauric acid, 20 kg. caustic potash, 8 kg. hexalin, 32 kg. benzine or similar solvent.

IV. 50 kg. coconut oil, 25 kg. caustic soda 38° Be., 6 kg. hexalin, 20 kg. quartz sand, 100 g. ultramarine blue. Add bitter almond oil or terpineol for scent. *Seifensieder Ztg.* 61, 34 (1934).

—o—

A new reagent for the determination of iodine numbers probably contains the same active agent as Wijs' Solution, but the method of preparation is much simpler. Dissolve 0.05 mol of dichloramine T (toluene-*p*-sulphondichloramide) in 700 cc. of halogen-stable acetic acid. Add 0.1 mol of powdered potassium iodide in small portions with continual shaking. When the iodide has completely dissolved, make up to 1 liter with acetic acid. The solution becomes yellow, then reddish-brown. The iodide equivalent is determined in the usual way by the amount of iodine liberated from a known volume of reagent by excess potassium iodide solution. Very little change occurs in the thiosulfate titer over a period of six months. Louis Hunter and Frederick F. Hyde. *Analyst* 58, 523-7 (1933).

—o—

Wetting, cleaning, dispersing and froth-producing agents are composed of free or neutralized hydroxyalkylsulfonic acids, having a maximum of 6 carbon atoms in the molecule. One or more hydroxy groups are etherified by alkyl groups containing at least 6 carbon atoms. These substances are particularly useful for processes carried out at low temperatures. Deutsche Hydrierwerke A.-G. French Patent No. 752,756, dated September 30, 1933.

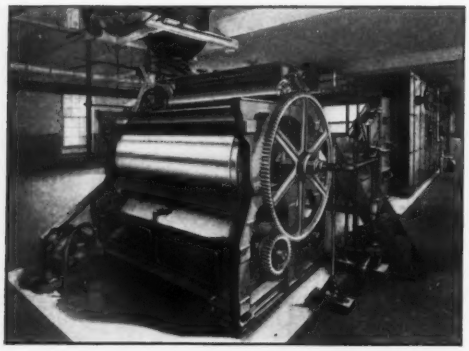
—o—

In making soap, an activated and stabilized inorganic material, such as colloidal clay, is incorporated with the fatty material before saponification, to obtain a convenient regulation of acceleration of saponification and increased detergent power. Robert P. Bordier. French Patent No. 750,972, dated August 24, 1933.

—o—

High molecular sulfonation products are obtained by treating natural fats, fatty acids or fat-like substances with about 5 per cent of their weight of a strong sulfonating agent such as chlorosulfonic acid, in the presence of aromatic hydrocarbons or their derivatives. Oranienburger chem. Fabrik A.-G. German Patent No. 583,686, dated September 7, 1933.

PRODUCING THE PERFECT CHIP FOR ALL SOAP MAKING NEEDS



● New Type Proctor Chip Soap System producing extremely thin chips of textile soap in new plant of Original Bradford Soap Co., River Point, R. I

● The New Proctor Chip Soap System produces the thinnest of chips . . . chips perfectly formed in long ribbons, evenly thin from edge to edge, uniformly dried free from hard overdried particles or underdried spots. These chips make cleaner, whiter, quicker-dissolving laundry flakes. They make smooth-surfaced, clear-colored toilet cakes. They give quicker, better milling and plodding. They give quicker, easier grinding into powdered soaps . . . with less loss in dust. New high speed chilling roll . . . spray-cooled, pump-drained, precision-ground, smooth-surfaced. New drying machine . . . with revolutionary improvements in principal details of design . . . more efficient, more economical, cleaner in operation. Write for your copy of our new descriptive Bulletin No. 72.

PROCTOR & SCHWARTZ, INC.

• SEVENTH ST. & TABOR ROAD PHILADELPHIA •

NEWS IDEAS · INFORMATION

SOAP TRADE REVIEW

NOW more than ever, it is necessary to keep in touch with trade developments in all parts of the world. THE SOAP TRADE REVIEW is the only monthly dealing exclusively with the Soap, Perfumery and Cosmetic Industries in Great Britain. It contains authoritative articles and the latest news and information of interest to those engaged in these industries.

Specimen copy posted free.

Subscription rate 12/6 per annum.

THE SOAP TRADE REVIEW
102-5 SHOE LANE, FLEET ST.
LONDON, E. C. 4

White Carnauba Wax

A white carnauba wax having a m.p. of 80.8° C. can be obtained from "fat-gray" carnauba wax of m.p. 82.1° C. by fractional crystallization. A by-product consisting of a wax-paraffin residue, m.p. 60.2° C. is also obtained. Carnauba wax partially purified with the aid of paraffin is dissolved in 10 times its weight of benzine at 55° C. The benzine fraction used is that boiling between 80 and 130° C. Turbidity appears at 50° C. The mixture is allowed to cool with gentle stirring to 16°, when crystallized wax is filtered off. It is freed from solvent by steam distillation. A yellow wax-paraffin mixture is obtained from the filtrate as a by-product. Cooling can not go much below 16°, as paraffin separates from benzine solution at about 12°. G. Schneider and R. Folgner. *Fettchem. Umschau* 41, 4-6 (1934).

—o—

Caranauba, beeswax, wool grease or spermaceti may be heated with such amines as ethanolamine, ammonia, methyl amine, aniline, piperidine, etc., to form products which are more easily dispersed in water and more easily sulfonated than the original materials. I. G. Farbenind. A.-G. French Patent No. 751,795.

—o—

A cleaning, emulsifying and wetting agent is prepared by treating fat or fatty acids with condensable lactones, alcohols or ketones in the presence of dehydrating sulfonating agents. The product is then partly or wholly neutralized. An example of such a wetting agent is that produced by heating together olein, isopropyl alcohol and chlorosulfonic acid. Kurt Lindner and Johannes Zickermann to Oranienburger chemische Fabric A.-G. German Patent No. 582,790.

—o—

A soap for cleaning wool, feathers, hair, etc., and for protecting them against moths comprises a mixture of neutral or acid soap and a mothicide which remains on the fiber, such as 1, 3- dichlorobenzene-4- sulfo -1, 3-phenylenediamine. I. G. Farbenind. A.-G. German Patent No. 581,990, dated August 5, 1933.

—o—

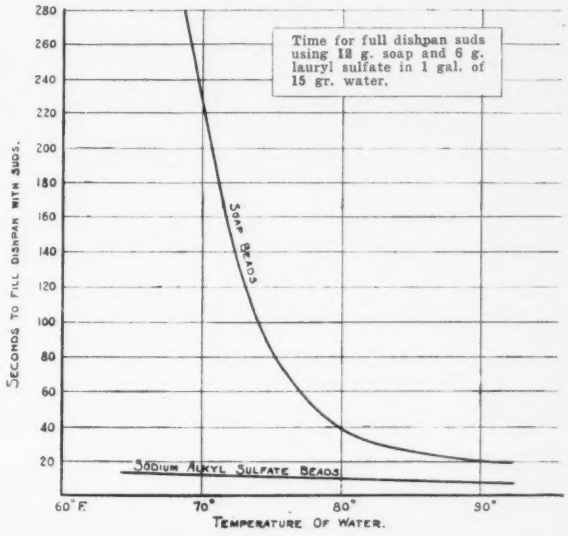
The Harnischfeger Corp., Milwaukee, has issued a new bulletin on "Hoists," which it manufacturers for all types of plant use. Photographs of installations and diagrams explaining construction and operation are included. Copies may be obtained through *Soap*.

—o—

Fatty Alcohol Sulfates

(*From Page 26*)

being washed. The calcium and magnesium salts of the alcohol sulfates remain in solution at suitable temperatures and show detergent properties equal to those of the sodium salt. Most of the metallic salts of the alcohol sulfates are soluble, at least to a moderate degree. They combine the characteristics of the metal with the detergent properties of the alkyl sulfate radical. In predicting the solubility of the metallic salts, they should be considered as sulfates, since they paralleled to a certain extent the solubility of the corresponding metallic sulfates. For example, the magnesium and copper alcohol sulfates are much more soluble than the sodium salts, which in turn are more soluble than the potassium salts. As would be expected the calcium salt is among the less soluble. The only metal ions which form insoluble salts with lauryl sulfate at room temperatures are aluminum, iron, lead and tin and even these are soluble in low concentrations. Solubility increases with temperature. For practical purposes, the solubility is sufficiently high, so that stains on textile caused indirectly by iron, lead

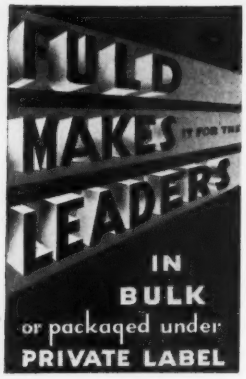


and copper soaps can be avoided by the use of the alcohol sulfates.

Solubility changes with temperature are rather unusual in type. For example, the solubility of calcium lauryl sulfate is only 0.5 g. per liter at 53°C., but at 54°C. it is at least ten times as great. Calcium stearyl sulfate is soluble to the extent of 20 mg. per liter at 93°C., but at 95°C. 500 mg. per liter will dissolve. These solubilities are in pure water, and cannot be taken as the hard-water resistance of the sodium salts. When sodium alcohol sulfate is dissolved in water containing lime salts, sodium and calcium ions are in equilibrium. Calcium alcohol sulfates are apparently quite soluble in solutions of sodium alcohol sulfates. Like soap, they do not form true solutions, but colloidal sols. Probably in the sodium-calcium mixture, sodium alcohol sulfate acts as a protective colloid to keep in dispersion the less soluble calcium alcohol sulfate.

Like soap, aqueous solutions of the alcohol sulfates possess the property of forming stable foams when agitated. Unlike soap, they have the property of forming foams readily in hard water, even in sea water. While foam-formation is not necessarily an indication of detergency, it is in the minds of many people, because of the behavior of soap. Sodium lauryl sulfate is sufficiently soluble to give as good suds even in ice-water.

(*To be continued*)



New Type

DANCE WAX

Approved by dance fans and fan dancers

Makes floors so hard and smoo-o-o-th that dancers can glide with chewing gum on both feet. Makes greyhaired dancers feel young, and young dancers feel,—(well, we were all young once!) Can you SELL it? ? ? ? ?

WHO COULDN'T?

For Getting
Fine Perfumes
That They Can't
Forget, REMEMBER
VITOZONE

processed
DEODORANT
BLOCKS

More Compact!
More Lasting!
More Economical!

FULD BROS. INC.
2310 FREDERICK AVE.
BALTIMORE
- - - MARYLAND - - -

Manufacturing Chemists to the Jobbing Trade

Eliminate Guesswork

There are two kinds of guesswork the buyer must shun.

One is to buy the lowest priced material offered. Such a buyer invariably pays a high price for what he *gets*.

The other is to permit himself to be lulled into a false sense of security by guarantees of strength which are hopelessly confusing or practically impossible for him to check up.

POWCO BRAND Pyrethrum Products are standardized chemically and biologically after manufacture—your protection against guesswork or sole dependence on theory or assumption.

POWCO BRAND Pyrethrum Products assure you more standardized *killing power* in your finished insecticide and, therefore, more value for your money.

"Killing Power—That's the Thing."

JOHN POWELL & CO., INC.

Specialists in Pyrethrum Products

114 E. 32d St., New York, N. Y.

OUTSTANDING FEATU

PYRE

1 Higher Concen

2 Clarity of prod

Pyrefume Super 30 con
other concentrates that

3 Stabilization of

Pyrefume Super 30 is
made from it are assur
concentrated extracts,

S. B. PE

132 Nassau St., New York City

RES OF SUPERIORITY IN PENICK'S

FUME SUPER 30

A Standardized Concentrated Pyrethrum Extract
of Ideal Strength for Diluting—With a Definite Pyrethrum Content

tration of product with resultant economy

uct and consequent clarity of spray

tains a little more than half the inert substance contained in we have examined.

product

stabilized against pyrethrin deterioration—consequently sprays ed of much longer toxic life than products made from other or from the flowers.

Sold to Established Manufacturers Only—
Special Strengths for the Export Trade.

Write for Our Prices and Treatise on Pyrethrum and Extracts

NICK & COMPANY

Insecticide Specialists

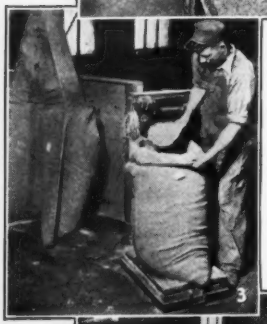
Importers, Exporters, Millers and Manufacturers to the Trade

★ ★ ★ ★

PROPER

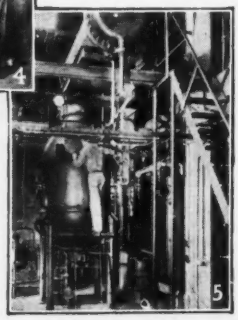
1. UNLOADING PYRETHRUM FLOWERS—Throughout the year this is one of the most familiar sights at the Pyrocide 20 plant. Many shipments are in transit to this plant all the year around to supply the needs. For more than three years this plant has operated seven days a week at full capacity.

2. OPENING BALES OF FLOWERS at intake to one of the breaker mills. Each bale weighs 448 pounds and contains only those flowers which have been accepted by our chemist at the point of purchase as containing 0.9% pyrethrins or more.

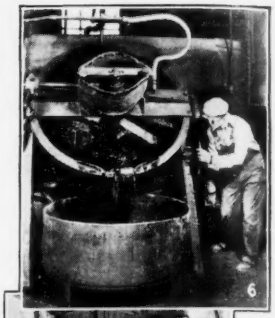


3. WEIGHING GROUND PYRETHRUM FLOWERS—Each sack is marked with a lot number and is weighed out to exactly 100 pounds after breaking and grinding.

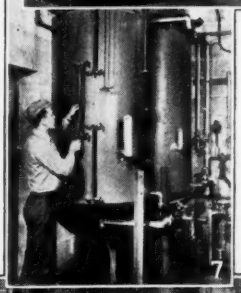
4. SAMPLING OF EACH LOT OF FLOWERS just prior to percolation—picture shows chemist taking sample for analysis just before loading into extractor. Samples are taken from every bag.



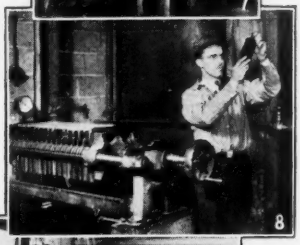
5. RECOVERY OF SOLVENT By Vacuum Distillation. This one still has a capacity of 450 gallons of solvent per hour. In this process, which we originated, the temperature never exceeds 60°C.



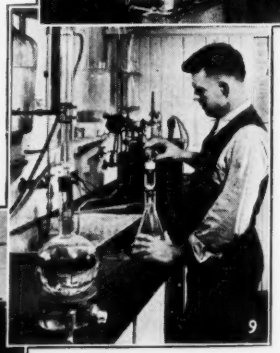
6. EXTRACTION OF OLEO RESIN. The Oleoresin is taken out of the still and put in this kettle and washed with mineral oil.



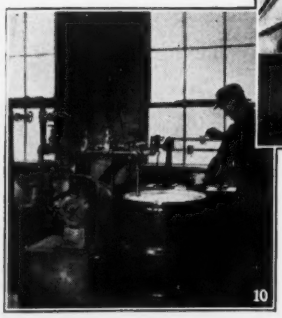
7. MAKE-UP TANKS where Pyrocide 20 is made up to volume in accordance with the pyrethrum assay of the sample which was submitted to the laboratory. These are accurately calibrated tanks to insure that the finished concentrate will contain 2.15 grams of pyrethrins per 100 cc.



8. CLARIFICATION. Pyrocide 20 is pumped into refrigerated tanks where it is held at 0°C for a minimum of three days. Then it is put through a filter press as illustrated. Samples are passed on to the laboratory for further checking as to clarity and killing power.



9. CORNER OF LABORATORY where the research work of the McLaughlin Gormley King Company has originated. Notice opposite page for complete listing of published research.



10. MAKING READY FOR SHIPMENT—Each drum is carefully filled from the storage tank and weighed to exact gallonage as indicated. All drums are new and specially made to eliminate precipitation and change of color.

PYROCIDE 20

STANDARDIZED EXTRACT OF PYRETHRUM FLOWERS

SUPERVISION

4 graduate chemists oversee and actually operate Pyrocide 20 plant — to give you an accurately standardized product

WE BELIEVE you are interested in the close attention we give to the manufacture of concentrated extract of pyrethrum. We picture herewith some of the more interesting steps in the production of Pyrocide 20.

Graduate chemists not only supervise every step in the making of Pyrocide 20 but actually do the work. When you use Pyrocide 20 in the manufacture of fly spray, your finished product reflects this expert supervision and workmanship as well as the research carried on in our laboratories and published in the following reports:

Studies on pyrethrum flowers. I. Quantitative determination of the active principles. J. Am. Chem. Soc., 51, 3054-64, 1929.

Studies on pyrethrum flowers. II. Relation between maturity and pyrethrin content. J. Am. Chem. Soc., 52, 680-4, 1930.

Studies on pyrethrum flowers. III. Pyrethrin content of commercial varieties. J. Am. Chem. Soc., 52, 684-8, 1930.

Studies on pyrethrum flowers. IV. Relative toxicity of pyrethrins I and II. J. Am. Chem. Soc., 52, 3300-7, 1930.

Review of methods for evaluating pyrethrum. Soap, 7, No. 1, 97-101, 117, 1931.

Effect of storage on pyrethrum flowers. Ind. Eng. Chem., 24, 901-3, 1932.

Manufacture of concentrated pyrethrum extract. Ind. Eng. Chem., 24, 988-91, 1932.

Relative toxicity of pyrethrins and rotenone as fly spray ingredients. J. Econ. Entomol., 25, 1237-40, 1932.

Studies on pyrethrum flowers. V. Presence of pyrethrolone and methyl pyrethrolone in the flowers. J. Am. Chem. Soc., 55, 1218-23, 1933.

Studies on pyrethrum flowers. VI. Dalmatian *Pyrethrum cinerariaefolium*. Soap, 9, no. 7, 82-5, 1933.

Pyrethrum investigations in Colorado. I. Factors affecting pyrethrin content. Colo. Agr. Exp. Sta. Bull. 401, 1-19, 1933.

Write McLaughlin Gormley King Company, Minneapolis, for further information.

PYROCIDE 20

STANDARDIZED EXTRACT OF PYRETHRUM FLOWERS

Why Cattle Sprays *Should Contain* YARMOR

1. The toxicity of the spray is increased.
2. Thirty-three per cent greater repellency is obtained than with other sprays.
3. They promote healing of open cuts and wounds.
4. They do not burn or blister hides.
5. Body temperature of cattle is not increased.
6. They do not cause matting of hair.
7. They do not stain or discolor.
8. If usual care is exercised they do not taint milk.
9. They help maintain the yield and quality of milk.

Steam-distilled Pine Oil
Steam-distilled Wood Turpentine
Wood Rosin
Alpha Terpineol
Commercial Abietic Acid
Abalyn
Nitrocellulose
Chemical Cotton

We do not manufacture cattle sprays, but we do produce Yarmor Steam-distilled Pine Oil. Manufacturers and users will profit by investigating the advantages of cattle sprays containing Yarmor.

HERCULES NAVAL STORES

HERCULES POWDER COMPANY
INCORPORATED
961 Market Street, Wilmington, Delaware

BRANCH OFFICES: • CHICAGO • NEW YORK • ST. LOUIS • SALT LAKE CITY • SAN FRANCISCO

QQ-42

IF YOU MAKE—

INSECTICIDES

DISINFECTANTS

PARADICHLOR BLOCKS

THEATRE OR FLY SPRAYS

—Make them pleasant smelling with our special perfume oils.

They cover the unpleasant odors perfectly.

They cost very little.

A small quantity suffices for they are powerful.

Tell us your product, and let us send you a sample of the right reodorant.

GIVAUDAN-DELAWANNA INC.

80 FIFTH AVENUE, NEW YORK, N. Y.

Branch Offices: Philadelphia, Los Angeles, Atlanta, Cincinnati, Detroit, Dallas, Baltimore, New Orleans, Chicago, San Francisco, Montreal, Havana

Listen to the counter conversation

PROGRESS SPELLS DOOM TO OUT-OF-DATE PACKAGES

THE repeated sales triumphs of the *modern* package illustrate the "survival of the fittest" in today's business. New comforts—greater use of art in every phase of modern living—have developed a universal style consciousness that *spells doom* to out-of-date packages.

Owens-Illinois offers you the simple answer to this problem—a change to the fine quality and sales appeal of O*n*I*zed* glass containers. The smart designs—the crystal clearness of O*n*I*zed* glass—the many practical features of O*n*I*zed* containers for proprietaries and pharmaceuticals—give products the eye-appeal that means increased sales. Write for further information. Owens-Illinois Glass Company, Toledo, Ohio.

How about stock-mold containers like these

Picture your product in a more salable package

O*n*I*zed*
PHARMACEUTICAL AND PROPRIETARY WARE

Owens-Illinois

STAINLESS CATTLE SPRAY

A light colored liquid for spraying cattle to rid them of annoying flies and insects. Contains the active principle of pyrethrum. Will not stain, blister or burn, and has no disagreeable odor. A popular product with farmers and dairymen. Supplied in bulk to the distributing trade only.

PES-TOX

An efficient liquid household insecticide of the pyrethrum type, pleasantly scented. Surpasses in effectiveness the standard of the National Association of Insecticide and Disinfectant Manufacturers. Each lot carefully controlled by the Peet - Grady method. Supplied in bulk for distributors to resell under their own trade-names. Also suppliers of pyrethrum concentrate.

PINE OIL DISINFECTANTS

made from pure steam-distilled pine oil, and agreeable in odor and dilute with water to form rich, milk-white emulsions.

HIPINE, made according to the formula of the Hygienic Laboratory has a minimum phenol coefficient of four.

ORPINE, prepared from slightly different ingredients, has a minimum coefficient of three.

CLEARPINE is a specially refined product, very light in color, and has a minimum phenol coefficient of four.

All are high-grade products, reasonably priced. Every lot chemically controlled and standardized. Supplied only in bulk to the distributing trade for resale under their own names and labels.

BAIRD & McGUIRE, INC.

HOLBROOK, MASS. **ST. LOUIS, MO.**

New York City and New Jersey Representative

EASTERN STATES SUPPLY CO., 136 Liberty Street, New York, N. Y.

Phone: WOrth 2—3143

for Greater Profits . . .

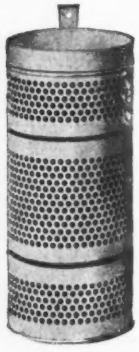
•Prepare yourself for better business ahead by getting full details and prices on these CLIFTON specialties. We can make any other products along the lines of those described on this page, if you will get in touch with us. Remember that CLIFTON cooperates: our snappy imprinted leaflets and labels will help you get more business!

Write Your Name Here ---------- Address ----------

•CLIFTON GUARANTEED PRODUCTS•

☐ **FOAMWEL LIQUID SOAP . . .**
The main characteristics of Foamwel are quick and profuse lathering in both hard or soft water. It rinses off quickly leaving hands soft and smooth. Made from pure white Cochin cocoanut oil. Aged in cypress-tanks before shipping. For these reasons Foamwel is distinctly superior to ordinary liquid soap.

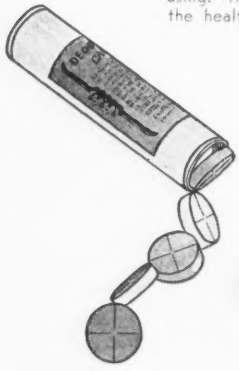
☐ **CLIFTON LIQUID SOAP CONCENTRATE**
A concentrated product used for the manufacture of liquid soap by merely adding 2 to 3 times as much plain hydrant water. Colored or perfumed if it is desired. Clifton Liquid Soap Concentrate is made from the same high grade materials as Foamwel Liquid Soap but approximately 2½ times as concentrated. (Anhydrous content 42%.) Saves time and labor. It is sparkling clear and stays this way in even the coldest weather.



☐ **CLIFTON LIQUID SOAP BASE . . .**
Solid form. A sparkling clear highly concentrated base made from the same basic materials as the liquid soap and concentrate. Recommended for those manufacturers who have facilities to use the solid material. Should be broken up in small pieces and dissolved in 2 or 3 times as much by weight of hot water. Add perfume and coloring if desired, then let stand for a few days after which time the liquid will become clear. Alternate method is to filter when cold.

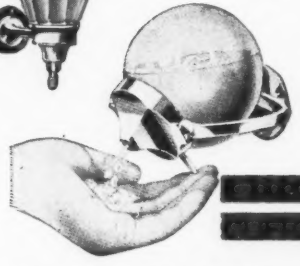
☐ **SEMI-CASTILE LIQUID SOAP . . .**
Made from half olive oil and half cocoanut oil. Used where an extra bland and unguent soap is required. Recommended for delicate hands.

☐ **PINE TREE DISINFECTANT . . .**
A non-poisonous disinfectant deodorant and cleanser which should be mixed in water before using. It gives a snowy white emulsion. Imparts the healthy pleasant tang of the pine forests.



☐ **CRESOLENE DISINFECTANT**
A coal tar disinfectant made from extra selected grade of distilled tar acids. Cresolene has a refreshing carbolic odor and gives a milk-white emulsion in either soft or hard water.

All Metal
TILTYPE SOAPER



The
DUODEK SOAPER
Chromium Plated

☐ **HIGH COEFFICIENT DISINFECTANT . . .**
Is made from genuine Scotch-blast furnace tar acids of which we are direct importers. Used extensively by manufacturers to fortify the lower grades of disinfectant.

☐ **CRESOL COMPOUND U. S. P. . . .**
Used extensively by hospitals for sterilizing in the operating room and general disinfecting.

☐ **CRESOL COMPOUND—CLIFTON . . .**
Technical grade, used by hospitals, also has a wide use for disinfecting cattle and cattle cars.

☐ **PINO CLEANSER . . .**
For glossy surfaces. A new principal bland neutral syprup-like cleanser to be used about one or two cups to a pail of water. Leaves a glossy bright new finish on varnished woodwork, furniture and automobiles. When used on linoleum, rubber or composition floors it preserves the life, color, appearance and springiness. Cleans with a minimum of effort.

☐ **SHINE-BRITE . . .**
Of the same general characteristics as Pino Cleanser except that it has a mild perfume odor in place of the pine smell. The modern way to clean and preserve floorings is by the use of Shine-Brite.

☐ **METEOR OIL SOAP . . .**
A light amber neutral potash vegetable oil soap, recommended wherever a bland soft soap is desirable—in general on all glossy surfaces.

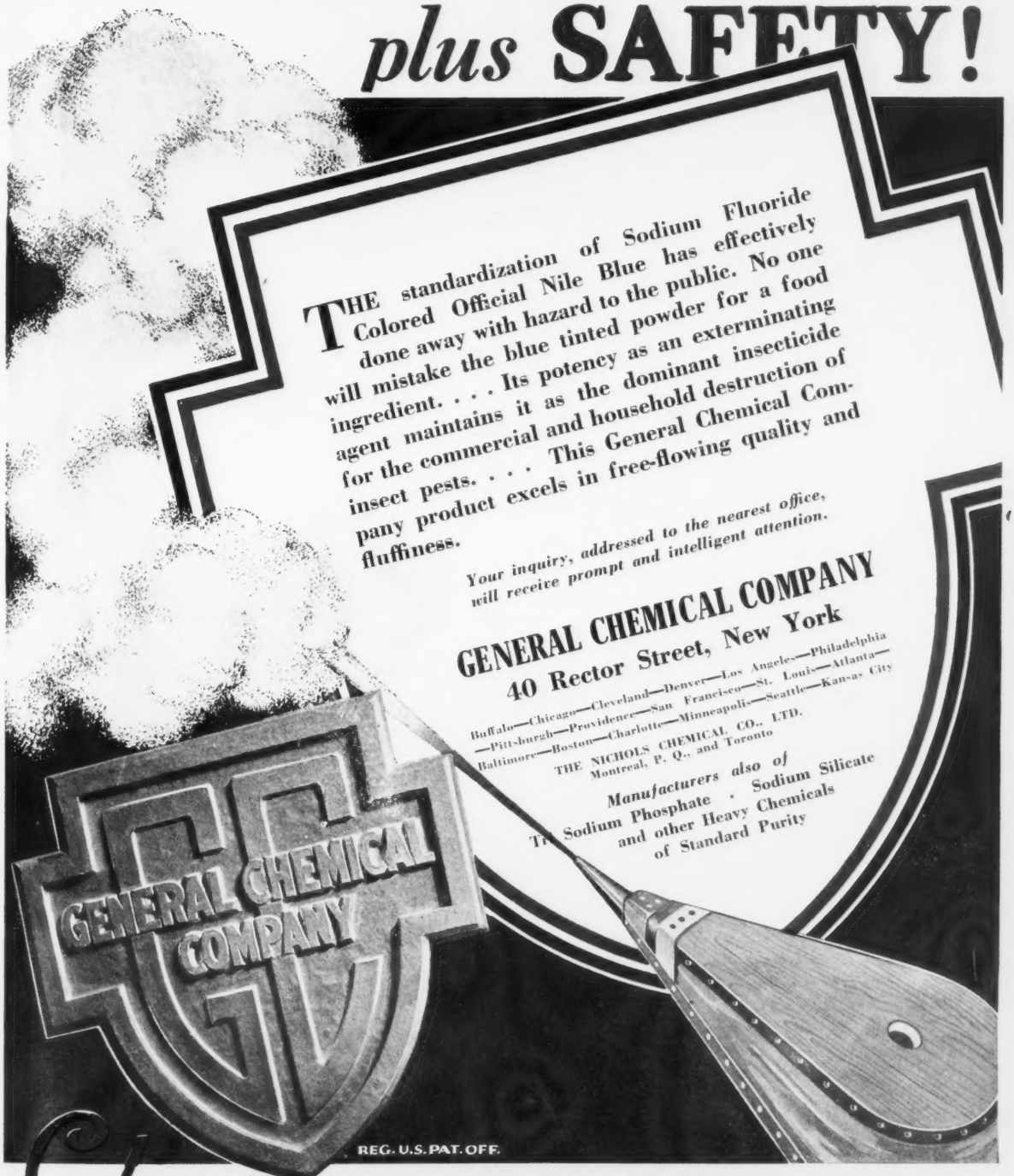
☐ **DAZZLE METAL POLISH . . .**
A liquid polish for all metals. It is non-inflammable and non-settling. Polishes with minimum effort.

☐ **RUB-NO LIQUID WAX . . .**
For floors. Dries bright in 20 minutes without polishing. Does a better job than old style waxes and saves considerable labor.

☐ ***also*** **Fragrantaire Blocks, Deodorette Cakes, Wall Containers, Insect Killer, Theatre Spray, Green Soaps, Hard Auto Soap, Dazzle Silver Polish, Prepared Liquid Wax, Fabric Cleaner, etc.**

[redacted]

Effective Extermination *plus* SAFETY!



THE standardization of Sodium Fluoride Colored Official Nile Blue has effectively done away with hazard to the public. No one will mistake the blue tinted powder for a food ingredient. . . . Its potency as an exterminating agent maintains it as the dominant insecticide for the commercial and household destruction of insect pests. . . . This General Chemical Company product excels in free-flowing quality and fluffiness.

Your inquiry, addressed to the nearest office, will receive prompt and intelligent attention.

GENERAL CHEMICAL COMPANY
40 Rector Street, New York

Buffalo—Chicago—Cleveland—Denver—Los Angeles—Philadelphia—Pittsburgh—Providence—San Francisco—St. Louis—Atlanta—Baltimore—Boston—Charlotte—Minneapolis—Seattle—Kansas City

THE NICHOLS CHEMICAL CO., LTD.
Montreal, P. Q., and Toronto

Manufacturers also of
Sodium Phosphate · Sodium Silicate
and other Heavy Chemicals
of Standard Purity

Colored **OFFICIAL NILE BLUE**
SODIUM FLUORIDE

Specialists in doing
one thing well

Baird's

Reg. U. S. Patent Office

For over a quarter
century manufacturers of

TESTED and CERTIFIED

DISINFECTANTS

for the wholesale trade

BAIRD & McGUIRE, Inc.

HOLBROOK, MASS. ST. LOUIS, MO

I&D MA — Insecticide and Disinfectant Manufacturers Association

INSECTICIDE AND DISINFECTANT SECTION

A Department of SOAP

SOAP is official publication of *The National Assn. of Insecticide and Disinfectant Manufacturers.*

JOHN H. WRIGHT, Secretary, Chrysler Building, New York.

EDITORIAL

A LEADING manufacturer of disinfectants takes exception to our comments in the last issue advocating a single coefficient only on disinfectant labels. He holds that a certain leeway is necessary and that the use of two figures giving a range offers protection to the manufacturer against normal variation in any disinfectant. He points out that no two bacteriologists get the same result on the same batch of disinfectant, and that it is impossible in actual plant operations to secure a check on every batch. He states further that a two-figure coefficient is not aimed primarily to mislead the buyer, as we stated. For these reasons, he maintains that more manufacturers favor the range than a single figure.

Although we know that there are other manufacturers who favor a range coefficient, we still believe that the single figure as advocated by the Food and Drug Administration, is the correct way to label a disinfectant. Any figure in the stated coefficient of a disinfectant higher than the true coefficient might mislead the consumer in its use. In certain dilutions, disinfectants will kill; in others, they will not. The coefficient as stated should be an unmistakable and accurate guide to correct dilution. What of it if a disinfectant labeled 3 should actually test 3.5? Is it wrong to be on the safe side or to give a customer something slightly better than he is entitled to? Maybe it was according to the psychology of the disinfectant industry of twenty years ago, but certainly not today.

We have been asked to place this subject before other manufacturers and secure their reactions. We can think of nothing better than an open discussion of the subject. In the meantime, we beg to call attention to the fact that a single coefficient figure is the present policy of the Food and Drug Administration.

—o—

THE daily press seems to have just discovered derris root and rotenone in a big way. The usual fantastic tales of this new and mysterious products are now breaking forth in print. The latest which we have read is a wild story about the Indians in the Upper Amazon Valley who have discovered a new insect killer called "rotonne." Its power is held to be almost supernatural and the Brazilian Government is pictured as guarding its secret with the army, navy, and marines. The writer of the article failed to mention whether this particular brand of

"rotonne" comes from a root, grows on trees, or is a by-product of the local glue-works.

—o—

WITH interest, we noted the prices at which bids were entered for a quantity of water-emulsion floor wax for one of the Government departments. The specification called for a waterproof article of high quality. The prices ranged all the way from forty-odd cents up to a dollar per gallon. Looking closer at the article, we can do nothing else but conclude that about one-third of the bidders either quoted below their actual material costs or intended to supply a cheaper product.

—o—

A MONTH ago, we suggested editorially that the present specification of the New York City Department of Hopitals for its insecticide requirements was meaningless and full of loop-holes. The Department, noting our remarks, called upon us to suggest a new specification minus the weaknesses of the present one. We have recommended a minimum 60 per cent kill by the Peet-Grady Method for standard liquid pyrethrum sprays, this test being suggested because it is the official method of the national association of the industry. We have suggested further that a separate specification be drawn for bed bug liquid,—considerable quantities of which are used by city hospitals,—and that this be a 5 per cent solution of cresylic acid in a water white kerosene. And we want to state once again that if more states, counties and municipalities had intelligent specifications for their insecticide requirements, there would be less useless material foisted upon them at what *appear to be* low prices.

—o—

THE code of the insecticide and disinfectant industry is still being held up in Washington by the NRA along with a number of other codes carrying provisions covering trade practices. The work of the code committee of the National Association of Insecticide & Disinfectant Manufacturers was completed a month ago to the satisfaction then of the NRA. It was expected that the code would be signed before March 1st. Elsewhere in this issue is a statement by the Association president and code chairman explaining the present status of the code.

Notes of the Trade

James Varley, vice-president of Baird & McGuire, Inc., St. Louis, was the author of an article, "St. Louis—the Center of Disinfectant Manufacture" in the annual Drug and Chemical Number of the St. Louis Chamber of Commerce News. In the article, Mr. Varley states that St. Louis manufactures and distributes more disinfectants and insecticides than any other city in the Middle West.

—o—

Charle P. McCormick, president of McCormick & Co., has been re-elected, for three years, as a director of the Baltimore Association of Commerce. He has also been re-elected as a director of the Equitable Trust Co., and appointed on the Board of the Young Men's Christian Association.

—o—

J. P. Barrett has joined the staff of S. P. Penick & Company, New York, in the capacity of entomologist in their household and agricultural insecticide department. Mr. Barrett has had many years' experience in his particular field and will be stationed for the present at the New York headquarters of the company.

—o—

Derris Developments is the title of a bulletin issued by W. Benkert & Co., New York. The bulletin discusses recent field tests on derris dusts for agricultural purposes. Copies may be secured by addressing the company at 100 Gold St., New York.

—o—

Zoro Co., Chicago, is introducing four new products: "Insect Master," a roach and insect killer; "Antlic," ant exterminator; "Moth Drops," moth preventive; and "Zorite," toilet bowl disinfectant and cleanser.

—o—

Fred W. Ensey, advertising manager of McCormick & Co., has recently returned to Baltimore after a six weeks' trip during which he visited points as far south as Texas and as far west as the coast. In various McCormick distributing points sales conventions were held under Mr. Ensey's direction.

—o—

Lambert Pharmacal Co., St. Louis, announces the election of J. S. Norton, vice-president, as a director of the company. Joel Y. Lund, St. Louis manager, was made a vice-president and A. C. Schuchardt, auditor, was elected treasurer.

—o—

Hess & Clark, Ltd., are establishing a plant in London, Ont., Canada, for the manufacture of live-stock remedies, insecticides, etc., for the Canadian trade. The company is associated with the American firm of Dr. Hess & Clark, Inc., Ashland, Ohio.

Derris in Fly Sprays

Kerosene Extracts of Derris Root as House Fly Sprays—Method and Results of Laboratory Tests of Extracts of Derris and of Cube Roots[1]

Part I

By F. L. Campbell and W. N. Sullivan, Bureau of Entomology, and
Howard A. Jones, Bureau of Chemistry and Soils,
U. S. Department of Agriculture

THE household insecticide industry has given so much attention recently to the development of the use of rotenone in kerosene sprays that the possibilities of kerosene extracts of derris root have been comparatively neglected. The writers, who began their study of the action of the derris group of plant poisons against house flies in the fall of 1931 (*1*),[2] were also slow to investigate kerosene extracts, having had reason to believe that rotenone was very slightly soluble in kerosene and having therefore supposed that kerosene extracts of the root would be too poor in rotenone to be effective. After tests (*6*) of an acetone extract of derris root against mosquito larvae and other tests not yet published had indicated that substances other than rotenone in the root might be of considerable value, it was decided to study the effects on house flies of kerosene extracts of rotenone-bearing plants.

Materials

Analytical data on the samples of plant materials selected for extraction are given in table 1. In this table and throughout this paper these samples are identified by the serial numbers given them by the Insecticide Division of the Bureau of Chemistry and Soils, U. S. Department of Agriculture.

The rotenone content of the plant materials was determined by Jones' method (*5*) in which carbon tetrachloride is employed as the extracting agent. The methoxyl content was determined by the method of Vieböck and Schwappach as modified by Clark (*2*). The determinations were made on acetone extractives, which were treated with benzene to remove traces of acetone. Soxhlet extraction was used for the determination of total solids extracted by acetone and by carbon tetracloride. The petroleum ether extractives were determined by agitating 10 gm of plant material with 100 cc of kerosene for about 7 hours and filtering on the following day. Extraction of solids by this method was probably incomplete. The results obtained were intended only to throw light on the concentration and toxicity of kerosene extracts that were prepared in the same way.

The samples of plant materials for the experiments were selected to cover a wide range of rotenone content; from 0 to 6.0 per cent in the case of derris root, and from 1.5 to 11.2 per cent in the case of cubé root. A sample of haiari stems was included as an example of a plant material in which the rotenone content is appreciable but in which the percentage of total extractives is relatively low.

Table 1.—Analytical data on samples of air-dried derris and cubé roots and haiari stems used in these tests.

Plant material	Insecticide Division Number	Rotenone content	Methoxyl content	Solids extracted by—Acetone	Carbon tetrachloride	Petroleum ether
		Percent	Percent	Percent	Percent	Percent
Derris root	401	0.0	1.30	12.4	9.4	3.0
Derris root (*Deguelia elliptica*)	523	1.4	1.56	12.4	13.6	2.4
Derris root (*D. malaccensis*)	524	1.8	2.86	22.2	21.0	2.7
Derris root	394-B	6.0	2.68	21.3	19.1	2.2
Cubé root	674	1.5	1.64	14.4	13.8	3.0
Cubé root	584	6.0	2.40	18.3	18.5	2.6
Cubé root	686-A	11.2	3.49	25.3	24.3	2.4
Haiari stems	627	1.0	0.68	6.6	6.2	2.2

The petroleum fraction employed for all extractions was a colorless and almost odorless product refined particularly as a base for household sprays. It will be designated "kerosene" in this paper. According to the manufacturer it had the following characteristics: Specific gravity 0.775-0.785; Saybolt viscosity at 100° F. 30 sec.; flash point (open cup) 170° F.; initial boiling point 370° F.; distillation end point 490° F.; unsulfonatable residue above 98 per cent.

Extracts for comparative laboratory tests were prepared simultaneously and similarly. Weighed quantities of the plant materials, ground to about 40 mesh, were added to 100 cc of kerosene and agitated in a revolving machine for about 7 hours. At the end of this period the containers were shaken by hand and allowed to stand overnight. On the next morning they were shaken again by hand, and the contents were filtered clear.

It was decided to use a solution of rotenone in the laboratory tests as a standard to check the operation of the method and to furnish information on the relative action of rotenone and extracts of derris in kerosene sprays. A good rotenone solvent that is also miscible with kerosene had to be chosen in order to make an effective solution of rotenone of known concentration in kerosene. The writers did not wish to use the acetone-kerosene mixture employed by Gnadinger and Corl (*4*) because evaporation of acetone during spraying might throw some of the rotenone out of solution and decrease its effectiveness. Consequently cyclohexanone and chloro-

[1] A sub-project on the insecticidal value of rotenone-bearing plants, the Division of Insect Physiology and Toxicology of the Bureau of Entomology and the Insecticide Division of the Bureau of Chemistry and Soils cooperating. Neither Division issues recommendations for the chemical control of insects. The Division of Insects Affecting Man and Animals (F. C. Bishopp in Charge) of the Bureau of Entomology is responsible for recommendations for the control of house flies.

[2] Reference is made by italic numbers in parentheses to Literature Cited list at end of article.

benzene less volatile solvents for rotenone, were tried. Cyclohexanone was chosen for use in the standard solution because it held more rotenone in solution than chlorobenzene. The standard solution finally adopted was a solution of rotenone 1:2,000 in cyclohexanone-kerosene (1:9 by volume). This was made by adding a solution of rotenone in cyclohexanone to kerosene, as rotenone did not go into solution quickly enough when added directly to the mixed solvent. Comparative tests of the standard solution and a similar solution in which cyclohexanone was replaced by acetone showed that the former was decidedly more effective.

Method of Rearing House Flies

House flies for the experiments were reared and maintained at a constant temperature of about 83° F. in a basement room (10½ feet long by 7½ wide by 6½ high). Relative humidity was held above 50 per cent. Richardson's (*9*) mixture of bran and alfalfa meal was used as a medium for oviposition and for development of the larvae. The flies were fed solely on pasteurized milk diluted with equal parts of water. The diluted milk was carried in well-soaked wads of absorbent cotton.

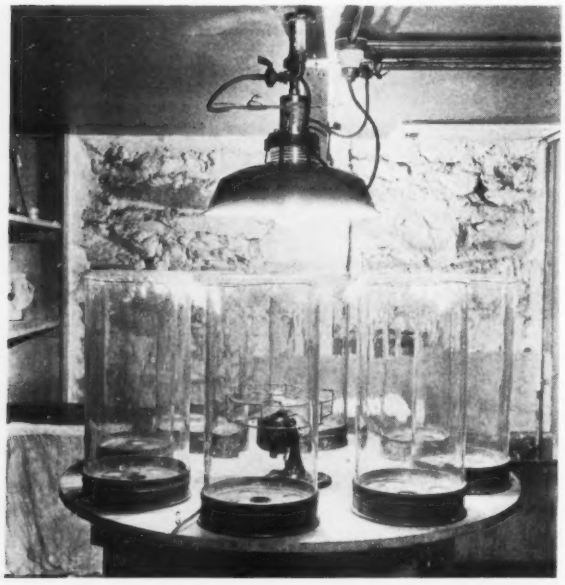


Figure 1. Room for rearing house flies showing water-cooled lamp and cylinders for maintenance of flies.

As there were no windows in the rearing room special arrangements were made to give the flies as much artificial light as possible. They were kept for use and for oviposition in glass cylinders (17½ inches high and 8¼ inches inside diameter) covered with perforated cellophane. The cylinders were arranged under a 1,000 watt water-cooled tungsten lamp as shown in figure 1. This lamp, for the use of which the writers are indebted to R. A. Steinberg of the Bureau of Plant Industry, U. S. Department of Agriculture, was operated about 8 hours a day.

The cylinders rested on copper bases in which five 1½ inch holes were cut. The center hole was screened and was brought over a hole in the table to permit circulation of air through the cylinder. Rims from the tops of ointment jars were soldered around the other four holes so that ointment jars could be screwed in or out from below without the escape of flies. The jars held milk-soaked cotton or medium for oviposition, which was renewed every day. Under the foregoing conditions, large, vigorous flies were obtained throughout two winters.

Spraying Apparatus

The apparatus shown in figure 2 is similar in principle to that devised by Tattersfield and Morris (*10*) for spraying aphids, but lacked its mechanical refinements. The paint spray gun, mounted rigidly on top of the bell jar, delivered a misty spray upon the flies which were confined at the bottom of the glass chamber in a screened 6 inch Petri dish. The gauge read 20 pounds per square inch before spraying and the pressure fell to about 7 pounds per square inch during spraying. From 3.85 to 4.15 cc of kerosene extract was sprayed into the chamber for each test. Only a small fraction of the volume sprayed could have come in contact with the flies. Some of the mist escaped during spraying through a slit in the copper tray at the bottom of the chamber, much of it collected on the walls of the chamber, and some remained floating in the air of the chamber at the end of the exposure period. The quantity that settled on the bottom of the Petri dish was determined by placing a weighed glass plate 4 inches square on the bottom of the Petri dish, spraying and exposing it to the settling mist as described below, and weighing it again immediately afterward. The quantity deposited in six successive tests ranged from 59 to 80 mg and averaged 72 mg or about 130 mg over the entire surface of the dish, which was about 5 per cent of the volume sprayed into the chamber. The per-

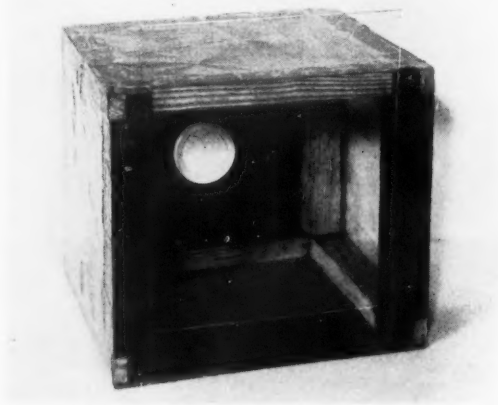


Figure 2. Cage covered partly with perforated cellophane for maintenance and observation of normal and sprayed house flies.

formance of the spray gun may be judged best by comparing the results of two groups of tests of the standard rotenone solution and two dilutions of it (see tables 2 and 3).

Method of Conducting Tests

A day's tests, usually 12, were made as follows: One or two cylinders containing together more than 600 flies between 2 and 3 days old were placed in a cold room at 30° F. for about 15 minutes. The chilled flies were mixed and 50 were counted out rapidly into each of the Petri dishes, the bottoms of which were covered with circles of filter paper. Each dish was then covered with a circle of 14-mesh wire screen, which was held in place by a celluloid collar band, and placed in the rearing room where the flies resumed their normal activity in about 10 minutes. In the meantime 5 cc of each of the liquids to be tested was pipetted into 15 cc graduated centrifuge tubes.

After the foregoing preparations had been made, only 4 or 5 minutes was needed by two operators to carry out the operations of a single treatment, including the assembly of the appartus, spraying of flies, exposure of flies to the settling mist, transfer of flies to the observation cage, and cleaning of the apparatus.

The treatments were made in the rearing room as follows: A dish of flies was centered in the copper tray upon which was placed the cylinder and bell jar. The position of the centrifuge tube was adjusted so that the end of the inlet tube of the spray gun coincided with the ½ cc mark on the conical end of the centrifuge tube. The valve of the gun was opened for 10 seconds, practically all the liquid available (about 4 cc) being sprayed during the first 5 seconds. The flies were exposed to the settling mist for 2 minutes, after which they were released from the dish within a 9½ inch cubical cage having a sliding glass front, sheet-rubber back, and top and sides covered with perforated cellophane (figure 3). The dish, screen, and collar band were removed from the cage, usually without the escape of a fly. The volume of liquid left in the centrifuge tube was recorded. The gun was cleaned by spraying acetone through it into a piece of cheesecloth which was then used to wipe out the bell jar, cylinder, and copper tray. The apparatus was then assembled for another test. The order in which a series of solutions was tested was reversed on alternate days.

The sprayed flies were kept for observation in a constant-temperature room adjacent and similar to the rearing room except that ordinary artificial illumination was used. A wad of milk-soaked cotton on a microscope slide was placed in each cage shortly after the flies were transferred to the cage. The food was renewed 1 and 2 days later. Counts of dead and moribund flies were made at the end of 1, 2 and 3 days after the treatment.

The kerosene check seemed to make the flies slightly sluggish by the time they were transferred to the cages, but otherwise it had no noticeable effect. Cyclohexanone in the cyclohexanone-kerosene check has such a profound, immediate effect on the flies that the action of this check was indistinguishable from that of the same solution containing rotenone. When the spray hit the flies they were thrown into violent activity which subsided at the beginning of the subsequent 2-minute exposure period. The flies continued to move about the dish with a tendency to collect in groups around the periphery. In a little over a minute some of the flies began to bound and bounce about the dish in all directions, suggestive of the popping of corn. The flies were incapacitated when transferred to the cages.

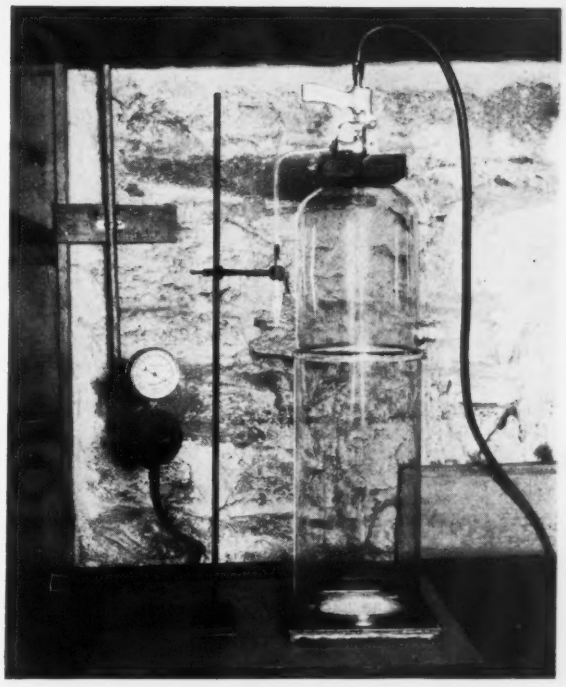
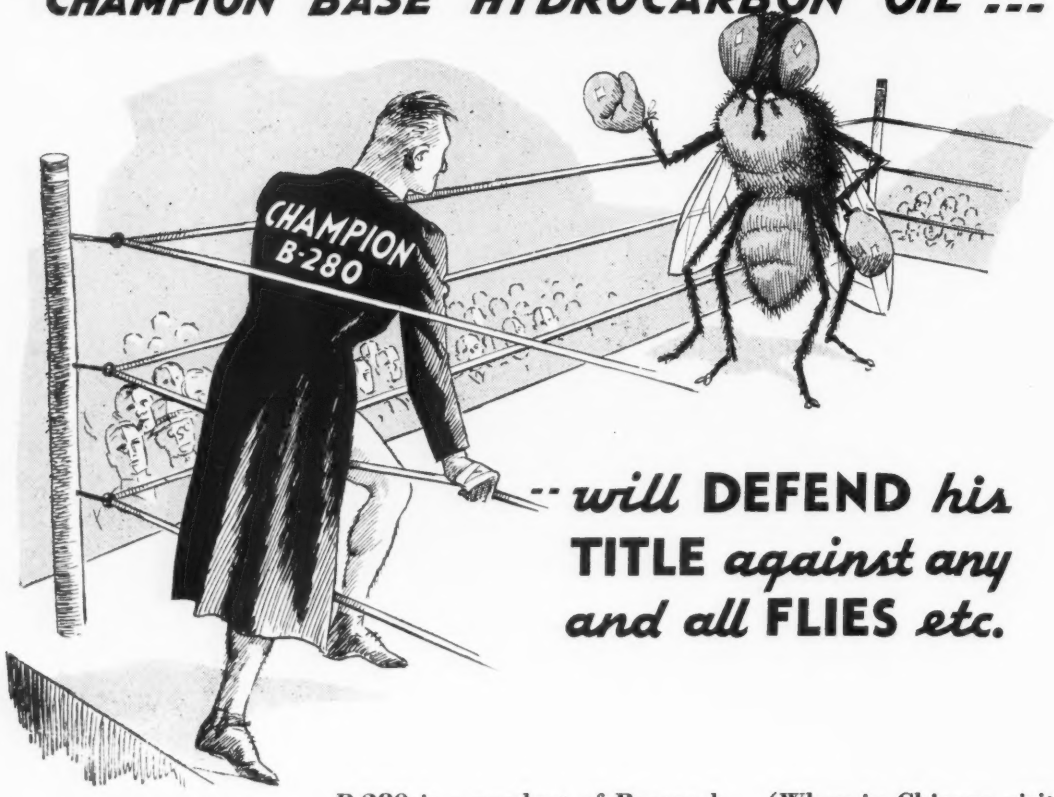


Figure 3. Laboratory apparatus for spraying house flies.

The flies moved about the dish when sprayed with kerosene extracts of derris root, cubé root, or haiari stems, but were not greatly exicted. They continued to move during the exposure period, their movements becoming more and more unsteady, and they appeared to tremble as they walked. Observation of individuals showed that this disturbance was due chiefly to frantic cleaning movements of the legs, although the onset of paralysis of the legs was noted in some individuals. Owing to the activity of the flies when they were stransferred to the cages the dishes were not removed from the cages until 10 minutes later when nearly all flies were paralyzed. The persistence of this initial paralysis depended on the potency of the extract. Many of the flies paralyzed by inferior extracts became active again in a few hours although none recovered completely.

The NEW KILLER--B-280
CHAMPION BASE HYDROCARBON OIL ---



--*will* **DEFEND** *his* **TITLE** *against any and all* **FLIES** *etc.*

Notice the remarkable odor before and after.

Notice to Manufacturers: We manufacture Base Hydrocarbon Oil only. We are not manufacturers of fly sprays.

B-280 is a product of Research. (When in Chicago visit our Research Laboratories at 3921 E. Ravenswood Avenue —15 minutes from the "Loop") (4500 square feet of floor space devoted to Petroleum Research for Industries).

Ask the Cleaning Industry about "STOD-SOL;" the Rubber Industry about "RUB-SOL" or "PETROBENZOL;" the Lacquer Industry about "TROLUOIL;" the Varnish Industry about "APCOTHINNER," they are all Internationally known "Industrial Naphthas" manufactured by this company. We now enter your Industry and offer "B-280" for your approval.

For technical data or samples, address the company at 3921 East Ravenswood Avenue, Chicgo, Ill.

ANDERSON-PRICHARD OIL CORPORATION

PRODUCERS AP REFINERS

OKLAHOMA CITY, OKLA.

BRANCHES IN ALL PRINCIPAL CITIES

Effect on Flies After Transfer to Cages

The flies recovered quickly from the slight effect of kerosene and more slowly from the greater effect of cyclohexanone-kerosene. By the next day these check flies had recovered completely. On the day after treatment flies sprayed with the standard rotenone solution or with kerosene extracts of derris root, cubé root, or haiari stems were similarly affected in kind but not in degree. Examples could be found of all degrees of effect ranging from nearly normal to dead flies. For purposes of description four arbitrary degrees of effect may be recognized: (1) Flies usually clinging or walking on the sides or top of the cage, like normal ones, and often flying. Effect evident only in the dragging of the hind legs which appear crippled. (2) Flies usually on the floor of the cage, flying only when disturbed. Legs seriously crippled so that the flies have difficulty in walking, cannot cling to sides and top of cage, and often topple on their backs after a flight, but are able to reach the milk and drink it. (3) Flies near death, move legs or proboscis only when touched, cannot reach food. The eye color in this and the first two groups is the normal dull red. (4) Dead flies, eyes brown, body usually shrunken.

It is characteristic of the action of rotenone and of kerosene extracts of derris, etc., that flies do not recover from the effects just described, which tend to become greater rather than less. So flies that are in group 2 after one day be in group 3 on the next day and may be dead on the third day. For this reason the effect of rotenone and extracts having a similar action cannot be fairly determined by a single mortality count after 24 hours.

The counts were made as follows: On inserting the arm, the lid closing the arm hole was placed on the floor of the cage. All flies on the floor were touched with the fingers, and the dead flies were placed in the lid, removed from the cage, and counted. Then the closed cage was shaken, and the flies on the floor a few seconds later were counted by observation. These flies were called "down." All counts were made by the senior author as objectively as possible.

Preliminary Tests

In order to determine the minimum number of daily counts needed to measure the complete effect of rotenone and of extracts having a similar action, the standard rotenone solution and the cyclohexanone-kerosene check were tested on the same day, four tests of each being made. Counts were made every day for 10 days. The average mortalities are shown in figure 4. Since the average sum of flies dead and down in the rotenone test was 98 per cent on the first day, and finally reached 100 per cent, it is unnecessary to give a curve for the percentage of flies down. The curves show that after the third day only a small number of deaths occurred per day among both the treated and check flies, and the rate of mortality of both was then about the same. It was therefore decided to make counts for 3 days only in the subsequent tests. The average mortalities during 3 days in 23 subsequent tests of the standard solution and in 6 tests of the cyclohexanone-kerosene check made on as many different days are also given in figure 4. These curves show that on the day in which the first tests were made, the flies were more susceptible than usual. The writers have found, as did Richardson (*8*), that the susceptibility of the flies varies from day to day. Susceptibility is related to the size of flies as well as to other unknown factors. The smaller the flies, the more easily they were killed. Because this variation in susceptibility, all solutions to be compared were tested at the same time.

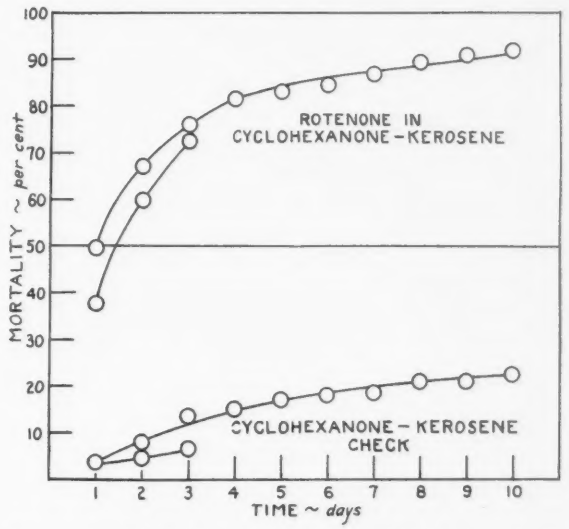


Figure 4. Mortality of house flies after having been sprayed by the laboratory method with a solution of rotenone 1:2,000 in cyclohexanone-kerosene (1:9.) Long curves plotted from average results of four tests made on the same day. Upper short curve, average of 23 subsequent tests. Lower short curve, average of 6 subsequent tests.

In order to choose a suitable quantity of plant material for extraction with 100 cc of kerosene, tests were made of extracts from 0.5, 1, 2, 5, 10, 15, 20 and 30 gm samples of cubé root No. 674. The effect of the extracts of the 0.5 and 1 gm samples was negligible. The extracts of the 10 to 30 gm samples were about equally effective. A 10 gm sample (12 gm per 100 cc would equal 1 pound per gallon) was therefore selected as the quantity to be extracted with 100 cc of kerosene for subsequent comparative tests.

Final Tests

Eight series of tests were made of kerosene extracts of the eight plant materials listed in table 1. The results are given in table 2 in terms of the mean per cent dead, and dead and down together, at the end of 1, 2 and 3 days. These results are a measure of the relative value of the several plant materials as sources of kerosene-soluble house fly poisons. The probable errors of all means in table 2, and in the other tables, were calculated, and the significance of differences between means was taken into consideration in drawing conclusions.

The Original Fly Spray Perfumes

BOUQUET No. 77

Produces a very fine lilac like odor in all fly sprays in which kerosene or petroleum distillate is used as a base. Only one ounce necessary to perfume one gallon of spray. Guaranteed not to stain.

BLEND No. 7

For those who desire a lower priced product which still possesses the features which have made Bouquet No. 77 extremely popular.

Both Bouquet No. 77 and Blend No. 7

are odors from which you can make sprays suitable for use anywhere. Especially recommended for use where food products are stored, sold or used.

On request we will send an interesting leaflet fully describing perfumes for deodorizing crystals or blocks, fly sprays and theatre sprays. Samples of these products will be furnished on application.

MEMBER NATIONAL INSECTICIDE AND DISINFECTANT MFRS. INC. 1914 INC.

P. R. DREYER Inc.

12 East 12th Street New York

"It's the Odor that Sells the Product"

Table 2.—Average results of 8 series of tests against house flies, showing the relative effectiveness of kerosene extracts of derris roots, cubé roots, and haiari stems.

Liquid tested	Insecticide Division Number	House flies dead in— 1 day Percent	2 days Percent	3 days Percent	House flies dead and down in— 1 day Percent	2 days Percent	3 days Percent
Kerosene extracts of derris root	401	50.0	73.5	86.0	94.2	96.7	98.7
	523	52.0	77.7	89.5	97.0	97.0	98.5
	524	45.0	71.2	85.2	96.5	97.0	99.2
	594-B	59.7	82.0	91.7	96.7	98.7	99.5
Kerosene extracts of cubé root	674	37.2	53.5	68.2	79.0	81.0	83.0
	584	41.7	65.0	82.0	92.5	93.5	95.5
	686-A	56.0	79.2	92.5	94.0	96.0	98.2
Kerosene extracts of haiari stems	627	25.0	43.2	53.0	60.2	64.2	69.2
Rotenone checks (in cyclohexanone kerosene)	1:2000	50.5	67.0	74.7	80.2	86.7	86.5
	1:4000	31.5	44.0	54.2	61.5	64.5	67.5
	1:8000	23.7	31.5	36.2	44.5	45.2	44.7
Kerosene check.....	...	8.7	10.0	14.5	9.7	11.0	14.7

The increase in the per cent dead during the three-day period was caused chiefly by the death of flies called "down" at the time of the first count. Only a few of the flies that were active at the time of the first count became moribund during the three-day period, as shown by the the slight increase in percentage of those dead and down.

Of the three kinds of plant materials, derris roots on the whole yielded the most effective extracts. The extract of haiari stems was the least effective.

Relation Between Rotenone Content of Plant and Effectiveness of Their Kerosene Extracts

Until a quantitative method is developed for the estimation of rotenone in kerosene solution, it is doubtful whether the role of rotenone in kerosene extracts of derris and other plants can be clearly understood. In addition to making the tests reported in table 2 the writers attempted in various indirect ways to find out whether rotenone does or does not play an important part in the effect of kerosene extracts of the roots.

Evidence against the importance of rotenone may be summed up as follows:

(1) Kerosene extracts of derris sample No. 401 were effective though this root contained no rotenone (tables 1, 2 and 3).

(2) An excess of crystalline rotenone was agitated with kerosene for 7 hours and filtered the next day, the process being the same as that employed for the preparation of effective extracts of the ground roots. This solution of rotenone was ineffective, apparently because of insufficient solubility of rotenone in kerosene under these conditions.

On the other hand there is the following evidence for the importance of rotenone:

(1) The effectiveness of the three extracts of cubé increased with increasing rotenone content of the roots (tables 1 and 2).

(2) An effective solution of rotenone in kerosene was obtained by heating an excess of the solid with the solvent, cooling and filtering. This experiment showed that kerosene can hold in solution an effective quantity of rotenone for at least two days, but the solution may have been supersaturated. The true solubility of rotenone in kerosene has not been determined.

(3) It is possible that extraction of a root with kerosene yields a solution richer in rotenone than can be obtained by saturating kerosene with pure rotenone. This might result if rotenone is orginally in solution in the resinous material of the root and therefore goes into a state of supersaturation when extracted, or if rotenone is really more soluble in the presence of these resinous materials.

Two samples of ground roots, derris No. 594-B and cubé No. 584, were extracted by agitating with kerosene as already described (10 gm/100 cc). Each marc was washed with small portions of petroleum ether to remove the kerosene mother liquor. The washed marcs were dried thoroughly and analyzed by the carbon terachloride extraction method. Marc No. 594-B contained 4.1 per cent rotenone and 13.5 per cent total extractives; marc No. 584 contained 3.3 per cent rotenone and 15.7 per cent total extractives, based on the original weight of the root. If these analyses and those of the original roots are correct, the kerosene must have removed 1.9 per cent of rotenone and 5.6 per cent of total extractives from No. 594-B, and 2.7 per cent of rotenone and 2.8 per cent of total extractives from No. 584. These figures may be high, however, owing to the solvent action of the petroleum ether used in washing the marcs. Even allowing for this possibility, the concentration of rotenone in the kerosene extracts of these two samples was almost certainly greater than in the standard solution of rotenone.

(4) It may be assumed that petroleum ether extractives, which can be recovered by evaporation to dryness, would be about the same in quantity and composition as kerosene extractives from derris or similar plants when the extracts are prepared in the same way. Since rotenone has been recovered by Geoffroy (*3*) from petroleum ether extracts of cubé and more recently by LaForge (7) from similar extracts of derris, it may be further assumed that rotenone is present in petroleum ether extracts of any roots that contain it. The eight samples of plant materials were therefore extracted by agitation with petroleum ether in the proportion of 10 gm per 100 cc. The percentages of extractives are given in table 1. The extractives were dissolved at 1:2,000 in kerosene-cyclohexanone (9:1) and were tested in comparison with a 1:2,000 solution of rotenone in the same solvent. As none of the extractives was as effective as rotenone, the components of the extractives other than rotenone were certainly not so effective as rotenone. Three possible toxic components of the roots other than rotenone are known, i.e., deguelin, tephrosin, and toxicarol. They were tested in alcoholic solution in comparison with rotenone. Deguelin was nearly as effective as rotenone, toxicarol was ineffective, and tephrosin slightly effective. Perhaps deguelin, or the substance in the roots from which it is derived, is responsible for some of the effect of the kerosene extracts, particularly of those from roots like No. 401 which contain little or no rotenone.

(*Turn to Page* 103)

DEO-BASE

Reg. U. S. Pat. Off.

No Kerosene Odor-

The time is close at hand when all liquid insecticides will have to be free from that tell-tale residual odor of kerosene. It is one of the greatest sales obstacles today. Eliminate it by using DEO-BASE—a petroleum oil refined to complete freedom from kerosene odor.

—•—

Liquid insecticides made with DEO-BASE find ready acceptance by housewives, the best hotels, dairies, bakeries, clubs, food markets . . . in fact, wherever the kerosene odor of ordinary sprays is found objectionable.

—•—

DEO-BASE conforms in every detail with the specifications of the National Association of Insecticide & Disinfectant Manufacturers.

—•—

Specifications of DEO-BASE

Specific Gravity	0.775-0.785
Sayboldt Viscosity at 100° F.	30 Secs.
Flash Point (Open Cup)	170° F.
Initial Boiling Point	370° F.
End Point	490° F.
Unsulfonatable Residue	Above 98%
Color	Water-White

L. SONNEBORN SONS, Inc.

Refiners of White Oils and Petrolatums

NewYork Office
88 Lexington Avenue

Refineries {Petrolia, Pa. / Franklin, Pa.

Chicago Office
820 Tower Court

Control Of House Ants

A Survey of Recommended Methods

By ALFRED WEED, Ph.D.*
John Powell & Co.

IT is estimated that in numbers there are more ants on the earth than all other insects combined. About twenty species are considered as possible household pests: six or eight being common in temperate North American and three of these species nesting indoors. Ants live in nests or colonies in which one or more queens reside and those which are generally seen about are the workers.

As is the case with several other household pests, cleanliness indoors is a preventative against the ant nuisance. The only manner in which an immediate and complete clean-up of the ant nuisance can be accomplished is by complete destruction of the colony or colonies responsible for the infestation, especially the queen or queens. If outdoors, unless many colonies are responsible, this may not be difficult; if indoors, this method may be a real problem as the exact location of the nest may not be found. Control methods recommended can be grouped in five classes: (1) treatment for nests, (2) poison baits, (3) traps, (4) barriers and (5) powdered insecticides.

Treatment of Nests

IF, and when the nests can be approximately located, a liberal dose of carbon bisulphide, carbon tetrachloride, kerosene or gasoline is effective. Outdoors these same materials are used and in addition boiling water, monochloronaphthalene, emulsion and cyanide are recommended. The survey shows the following number of official sources and their recommendations additions having been made for those states following the recommendations of the U. S. Dept. of Agriculture: carbon bisulphide 42, cyanides 20, petroleum oils (kerosene and/or gasoline) 18, boiling water 16, monochloronaphthalene emulsion 1, carbon tetrachloride 1.

Poison Baits

BECAUSE of the preference for sweets exhibited by a majority of the house ants, poison baits are widely suggested. A bait of this character to be effective must be sufficiently low in toxic constituents to permit the workers to feed upon it and carry it back to the colony, where it is distributed among the immature ants and given the queen or queens. If too poisonous, a few workers will be killed and the material may be rejected as food by others. Various arsenicals are used in such baits as is also tartar emetic and thallium sulphate. There is some hesitancy on the part of some official workers to recommend the last-mentioned compound, because it is so poisonous. Poison baits are customarily set out in pill boxes, metal or glass containers, perforated to permit ants to carry away the material. Caution should be taken to see that children and pets have no access to such containers. Formulae for the more characteristics baits follow:

Arsenic Preparations

MIX 9 pounds of granulated sugar, 6 grams of tartaric acid (crystallized), and 8.4 grams of benzoate of soda. Boil slowly for 30 minutes in 9 pints of water. Allow to cool. Dissolve 15 grams of sodium arsenite (C.P.) in ½-pint of hot water. Cool. Add poison solution to sirup and stir well. To the poisoned sirup add 1¼ pounds of honey. Mix thoroughly.

Dissolve 1 pound of sugar in 1 quart of hot water. Add 125 grains of arsenate of soda and boil until dissolved. Add 1 tablespoon of honey. Allow to cool.

Mix 1 part of tartar emetic with 20 parts of extracted honey. Mix 1 part of tartar emetic with 20 parts of bacon drippings or grease. Rubb tartar emetic on raw or cooked meat and bacon rind.

Mix 1 ounce of Paris green with 16 ounces of brown sugar. Recommendations from official sources on baits are as follows: sodium arsenite 32, tartar emetic 27, thallium sulphate 17, sodium arsenate 11, paris green 4, white arsenic 3, sodium fluosilicate 1.

Thallium Sulphate

MIX 1 pint of water, 1 pound of sugar, 27 grains of thallium sulphate and 3 ounces of honey. Bring to a boil. Mix thoroughly and allow to cool. Thallium Sulphate is a dangerous poison and should be handled with great care.

Traps

TRAPPING the workers on sponges soaked in sweetened water, on bones, or bacon rinds is sometimes suggested. When heavily infested these are dropped into hot water and then reset. If followed consistently, some benefit may be derived from this procedure, as if a sufficient number of the workers can be destroyed frequently colonies will become discouraged and move on or search elsewhere for food. Such a procedure may, however, attract innumerable ants and actually augment the nuisance. Traps are suggested as a means of eradications by 15 official sources.

(*Turn to Page* 101)

*Read before National Association of Insecticide & Disinfectant Mfrs., New York, Dec., 1933. Report of Entomological Section, Insecticide Committee.

DOWICIDES

TRADE DOW MARK

1 to 5—Oil Soluble • A to E—Water Soluble

Phenol coefficients from 25 to 111.
Fungicidal value from .05% to .003%.

Ten new products covering a wide range of uses where—
ODORLESS . . . NON-POISONOUS . . . COLORLESS
characteristics are desirable.

These products are now used extensively in the United States and abroad as—

1. General disinfectants.
2. Admixtures to increase phenol coefficients.
3. Preservatives for all products subject to bacterial or fungous decomposition.

Special attention given to recommendations improving individual formulas and products.

DOW PRODUCTS INCLUDE

COUMARIN · METHYL SALICYLATE · METHYL ANTHRANILATE · PHENOL
CAUSTIC SODA · CARBON TETRACHLORIDE · ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE · ORTHODICHLORBENZENE · OVER 200 OTHERS.

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

Branch Sales Offices: 60 East 42nd Street, New York City; Second and Madison Streets, Saint Louis

A Review of Derris Patents

Issued in Various Countries Recently Covering Derris, Cube, and Tephrosia Insecticides

By R. C. ROARK

Principal Chemist in Charge
Bureau of Chemistry and Soils

IN the September, 1930, issue of *Soap* the author reviewed American and foreign patents relating to insecticides prepared from Derris, cube and Tephrosia. Interest in these insecticidal plants has continued to grow, and many patents relating to their commercial utilization have been issued since that time. The present paper abstracts the patents on these plants and one of their chief insecticidal constituents, rotenone, which have appeared since the publication of the former review. A few early patents that were overlooked previously are also included.

United States Patents

1,455,485 (May 15, 1923; appl. July 26, 1922). Medical Compound. W. C. Grove, Basic, Va.—A preparation for the treatment of diabetes is made from nine ounces ground roots of *Tephrosia virginiana*, one ounce lithium citrate, 30 grains powdered cinnamon, 3 grains cochineal, 2 ounces alcohol and 16 ounces water.

The root of *Tephrosia virginiana* has been shown by Clark (Science 77: 311-312, 1933) to contain rotenone, tephrosin and related compounds. It is reported to be diaphoretic and anthelmintic. The description of the medicinal properties of this plant by Grove indicates, however, that he has confused *Tephrosia virginiana* with *Galega officinalis* since both are commonly known as goat's rue.

1,514,377 (Nov. 4, 1924; appl. Mar. 31, 1920). Insecticidal Compound. H. H. Dow and W. J. Hale, Midland, Mich.—Dow Chemical Co., Midland, Mich.—An insecticide consists of the halohydrin (ethylene chlorohydrin or propylene chlorohydrin) extract of derris admixed with benzyl alcohol. The mixture (preferably 50:50) or benzyl alcohol and halohydrin serves as an excellent solvent for timboin, nicotine and derris (or "fish poison"). Such combination of ingredients may readily be mixed with inert dry materials, such as lime, lead-, calcium- or magnesium-arsenate and the like, capable of absorbing the same, and can then be applied in the form of a powder or dust with highly satisfactory results.

1,786,125 (Dec. 23, 1930; appl. May 18, 1927). Fungicide and Insecticide. W. C. O'Kane, Durham, N. H.—the patentee claims a fungicide and insecticide consisting of hydrocarbon white oil carrying a colloidal metal derivative component, such as colloidal cuprous oxide or hydrated oxide. If desired this refined oil may be used to extract any suitable organic material such as pyrethrum of various species, derris or various species, or other substances that will furnish an additional killing agent effective against insects. Or, such materials may be added to the refined oil.

1,803,870 (May 5, 1931; appl. Oct. 3, 1927). Process of Forming Colloidal Suspensions Containing Copper and Product Thereof. G. E. Sanders, New York, N. Y.—Derris powder may be added to a dry mixture of Bordeaux or copper carbonate and calcium caseinate; or derris compounds may be added to a paste Bordeaux containing casein or calcium caseinate.

1,820,394 (Aug. 25, 1931; appl. Mar. 9, 1929; in Germany, Mar. 12, 1928). Method of Fumigating with Calcium Cyanide. J. Lingler, Offenbach-on-the-Main, Germany—Deutsche Gesell. Fuer Schaedlingsbekämpfung M.B.H., Frankfort-on-the-Main, Germany.—Pyrethrum, derris root, or other substances may be mixed with powdered calcium cyanide and blown into space to be fumigated.

1,847,540 (Mar. 1, 1932; appl. Mar. 11, 1930). Method of Making Insecticide Floatable. G. E. Sanders, New York, N. Y.—The patentee claims a method of coating particles of insecticide dust and causing them to become flotable on water by utilizing the heat of slaking lime for melting stearic acid to coat the particles. The insecticide dust may be an arsenical, such as copper arsenite, finely ground derris, or pyrethrum.

1,854,948 (Apr. 19, 1932; appl. Nov. 7, 1927). Moth Proofing. W. J. McGill, Whiting, Ind.—Standard Oil Co., Whiting, Ind.—The patentee claims a solution adapted for use in the moth-proofing of fabrics, containing rotenone. This is made by extracting derris root, black haiari roots and stem or white haiari stem and leaves with a petroleum naphtha boiling between approximately 300 and 400° F. Alcohol, benzol, ether and similar organic solvents can also be used for the extraction.

1,982,256 (Sept. 26, 1933; appl. Aug. 23, 1930). Insecticide and Process for Making the Same. H. A. Jones, Cherrydale, Va.—The Government and the People of the United States of America.—A process of producing a liquid insecticide containing rotenone in a colloidal state of dispersion consists substantially in dissolving a plant extract containing rotenone in a pyridine base and adding this solution to water with subsequent mixing.

1,928,968 (Oct. 3, 1933; appl. Aug. 23, 1930). Process for Making an Insecticide. H. A. Jones, Cherrydale, Va.—The Government and the People of the United States of America.—A process of producing a liquid insecticide containing rotenone in a colloidal state of dispersion consists in dissolving a plant extract contaning rotenone in a compound containing at least one keto-group, (e.g., acetone or diacetone alcohol) and adding this solution to water in the presence of tannic acid with subsequent mixing.

1,934,057 (Nov. 7, 1933; appl. Oct. 31, 1928). Insecticide. Dudley H. Grant, Moorestown, N. J.—Standard Oil Development Co.—An insecticide or insect repellent comprises a petroleum white oil, an extract of a plant belonging to the class known as fish poisons (e.g. Derris, Lonchocarpus and Tephrosia otherwise known as tuba, cubé, haiari, timbó, etc.), and an emulsifying agent. Derris may be extracted with benzol and the concentrated extract emulsified with white oil or the insecticidal principles of derris may be extracted directly with the white oil. A spray diluted for use may contain .06 to .25 per cent derris extractives, .5 to 1.0 per cent petroleum white oil, .2 to 1.0 per cent soap and 97-99 per cent water.

1,938,652 (Dec. 12, 1933; appl. Aug. 20, 1931). Horticultural Spray. Amos E. Badertscher, Baltimore, Md.—McCormick & Co., Baltimore, Md.—A horticultural spray for dilution in water includes 15 to 35 per cent pine oil, 25 to 45 per cent dipentene (Solvenol) and 60 to 20 per cent of an insecticide (nicotine, rotenone, pyrethrins, quassiin, etc.). Fenchyl alcohol and a rosin soap may be added.

1,940,646 (Dec. 19, 1933; appl. Oct. 19, 1927). Insecticide and Process of Making the Same. Dudley H. Grant, New York, N. Y.—Standard Oil Development Co.—The active insecticidal principles are extracted from pyrethrum, derris, cubé or tephrosia with a composite solvent composed of a hydrocarbon oil (preferably kerosene or a light lubricating oil), an oil-soluble sulphonate derived from petroleum and other blending agents such as water, sec.-butyl alcohol, ethyl methyl ketone, steam distilled pine oil, etc.

(*Turn to Page* 95)

THEIR NOSES KNOW

Appealing Fragrances Sell! Increase Your Fly Spray Sales With Felton Fragrances Which Effectively Cover the Odor of Mineral Spirits.

FELTON CHEMICAL CO., INC.

Have Made a Scientific Study of This Problem, and Offer a Selection of FLY SPRAY PERFUMES and NEUTRALIZERS Which Accomplish Maximum Coverage at Minimum Cost.

***VITAFLOR No. 758**—An Extremely Powerful Neutralizer

***KEREX LORIENT**
***KEREX BOUQUET**
***KEREX CHERIE**

Neutralize and Perfume in One Operation.

DULCENE
METSAL
NEWMON
AIRDOUX

Effective Coverage — Pleasing Odors. Priced as Low as 75 Cents Per Pound.

It will be to your advantage to investigate the above items. Write us for samples and quotations.

*Trade Marked

FELTON CHEMICAL COMPANY, INC.

Executive Office and Factory—599 JOHNSON AVE., BKLYN, N. Y.
Chicago, Ill., Office and Warehouse —1200 NORTH ASHLAND AVE.
Los Angeles, Cal., Office—515 SOUTH FAIRFAX AVE.

Also representatives and stocks in the following cities:

NEW ORLEANS, LA.
Robert E. Felton
Balter Bldg., Rm. 407

ST. LOUIS, MO.
Keiffer Sales & Adv. Service
1014 Locust Street

Fergusson Labs., Oregon Ave. & Swanson St., Philadelphia, are offering a new non-separating metal polish to the jobbing trade either for repacking under private brand or for resale in bulk in the institutional market. Fergusson Labs. manufacture a variety of products for the jobbing trade, including liquid soap, soap base, various polishes, disinfectants, etc.

—o—

A striking improvement was shown in earnings for 1933 of Milton Proprietary, the well-known English makers of antiseptics and disinfectants. The report states that the average monthly sales of Milton disinfectant was 19½ per cent higher than the average for 1931-32, which was itself 14 per cent better than the 1930-31 figure.

—o—

Dr. A. Lloyd Taylor, formerly of the research staff of E. R. Squibb & Sons, and more recently with the Sirdler Corporation of Louisville, is now director of the department of chemistry of Pease Laboratories, Inc., New York. Dr. Taylor has held several academic positions of responsibility and has been active in original research.

—o—

Roy E. Hurd, formerly in charge of the southern office and factory of Wilson & Bennett Mfg. Co., located in New Orleans, has recently been transferred to the eastern office and factory at Jersey City, N. J. Mr. Hurd has been connected with this company for a number of years.

—o—

The ban against selling on consignment contained in the code of fair competition for the agricultural insecticide and fungicide industry was the subject of protest in the recent hearing on the code in Washington. Fred L. Somers of Florida stated that the ban would seriously injure his business to the advantage of larger concerns. He pointed out that larger companies with warehouse stocks all over the country could dispense with consignment selling, but that smaller concerns, without warehouses, could not persuade their customers to stock up against a consumer demand that might be a year in materializing.

—o—

The annual report of Hercules Powder Co. indicates net earnings for 1933 of $2,363,055, as compared with $889,763 in 1932. This equalled $2.79 per share on the common stock after the 7% preferred dividend. Dividend payments on the common totaled $2.25 for the year.

—o—

Fuld Bros., Inc., Baltimore, has recently mailed a folder describing a number of selected items in the Fuld line of sanitary supplies.

—o—

Tanglefoot Co., Grand Rapids, Mich., has introduced a new plant spray.

Status of I. and D. Code

In response to numerous requests received from the industry in regard to the present status of the Code of the Insecticide and Disinfectant Industries, the following statement has been issued jointly by Peter Dougan, president of the National Association of Insecticide and Disinfectant Manufacturers, and Dr. Robert C. White, chairman of the Code Committee:

"Delay in signing the insecticide and disinfectant code has been due to some uncertainties in their requirements on the part of NRA officials at Washington and also due to firms in the industry requesting numerous and sundry provisions for the especial protection of their individual businesses. Direct communication with the NRA by individuals and firms complaining against certain features of the code and suggesting additional provisions has caused considerable confusion and delay. Requests for changes and additions through the Code Committee of the National Association have also been a factor in the delay owing to their large number.

"In spite of the confusion and delay, a finished code was agreed upon between the NRA and the Committee on February 16. It was expected that this would be signed in a few days. However, subsequent executive orders in Washington have held up the signing of the insecticide and disinfectant code along with numerous other codes which contain trade practice provisions which in any way may affect prices. This delay will probably continue until such time as the NRA completes an investigation which it is now making into the effects on prices of codes already in operation."

—o—

Exterminators Renominate Wm. Buettner

The annual meeting and banquet of the National Association of Exterminators and Fumigators has been set for March 26th at the Hotel New Yorker, New York. The business session has been scheduled for 4:00 P. M., with the banquet to follow at 6:30. The speakers will be Dr. J. A. Trautman, U. S. Public Health Service, Dr. John Oberwager, New York City Department of Health, and D. J. Sullivan, Chief Health Officer, Jersey City. Among the guests of honor will be Dr. John L. Rice, Commissioner of Health, New York, Dr. E. D. Bocker, Chief of the Drug Division, New York, and Ernest M. Mills, U. S. Biological Survey, Department of Agriculture. The nominating committee will present a slate of officers for the coming year including the following names: President, Wm. O. Buettner, Oscar G. Buettner & Sons., Inc.; vice-president, Henry Mahler, Mahler Exterminating Co.; Treasurer, Frank Rauch, Empire Exterminating Co.; secretary, Irving H. Josephson, Josephson Disinfecting Co.; and member of the board of directors, George Sanders, Sanders Exterminating Co.

—o—

Dr. Alonzo Blauvelt, oldest employee of the New York Department of Health, died late last month in his eightieth year. Dr. Blauvelt had been Acting Commissioner prior to his retirement which came only a few days before his death.

KUMFIES

Moisture Proof Sanitary Napkins

(patented)

for Vending Machines

Would *you* like to sell a sanitary napkin with exclusive patented moisture-proofing that gives you an unbeatable sales argument—lifts you above competition and yet costs no more?

Well, we have it for you. Fully absorbent yet affording 100% protection to garments. Comfortable, deodorized, shaped to conform, easily disposable. Protected, exclusive—an innovation!

Each gleaming white napkin in an individual sealed envelope ready for vending (also furnished rolled in tubes). Fits any standard size machine.

The moisture-proof test* sells them. It speaks for itself.

Vending Machines for Kumfies

No. 710 — 10c coin slot — for flat napkins — white duco—capacity 24 napkins.

No. 705 — 5c coin slot — for flat napkins — white duco—capacity 24 napkins.

No. 610—10c coin slot—for rolled napkins—white, green or gray enamel—capacity 14 napkins.

No. 605—5c coin slot—for rolled napkins—white, green or gray enamel—capacity 14 napkins.

**Try this test.*

Moisten a Kumfie and another napkin with equal amounts of water. Note how quickly it comes through the other napkin. Then watch Kumfie and be surprised.

WRITE FOR PARTICULARS

U. S. Sanitary Specialties Corp.

435 So. Western Avenue

Chicago, Illinois

Record Attendance at Drug Dinner

A record attendance of over 1200 turned out to greet Postmaster General James A. Farley at the annual dinner of the drug, chemical and allied trades section of the New York Board of Trade, held at the Waldorf-Astoria, March 8. Mr. Farley spoke on topics of national interest, with particular reference to the national recovery program. Samuel W. Fraser of Burroughs Wellcome & Co., chairman of the section presided, and Lee H. Bristol, Bristol Myers Drug Co., acted as toastmaster. The musical entertainment consisted of an orchestra, organist and male singers from the Central Park Casino. More than forty members of the section served on the reception committee under the direction of Joseph Huisking of Chas. L. Huisking & Co. Officers of the section are: Herman G. Weicker of Dodge & Olcott Co., vicê-chairman; S. Barksdale Penick of S. S, Penick & Co., treasurer; and Ray C. Schlotterer, secretary.

—o—

Stanley Clark, formerly sales manager for Lehn & Fink, Inc., Bloomfield, N. J., has recently joined National Oil Products Co., Harrison, N. J.

—o—

Derris Patents

(*From Page* 91)

1,940,899 (Dec. 26, 1933; appl. Jan. 21, 1932). Method of Preparing Horticultural Dust. Amos E. Badertscher, Baltimore, Md.—McCormick & Co., Inc., Baltimore, Md.—A horticultural dust is made by spraying talc or bentonite with a solution of pyrethins, alone or in admixture with rotenone, in a volatile solvent while agitating the inert material and maintaining it at a temperature at which the solvent will evaporate. If desired 60 parts of the coated, impregnated material may be mixed with 40 parts of ground derris or cubé root.

1,942,104 (Jan. 2, 1934; appl. Feb. 20, 1933). Process of Extracting Rotenone from Plant Material. Howard A. Jones, Washington, D. C.—The Govt. and People of the United States.—A process for making a chemical compound of rotenone and carbon tetrachloride, $C_{23}H_{22}O_6.CCl_4$, consists in extracting plants of Derris, Lonchocarpus (cube), Spatholobus or other rotenone-bearing plants with warm carbon tetrachloride and crystallizing.

Reissue 18,667 (Nov. 22, 1932; appl. Feb. 25, 1929; original 1,621,240 issued Mar. 15, 1927; appl. Apr. 16, 1923). Vermifuge and Insecticide. W. J. Dennis, Iowa City, Iowa.—The patentee claims an insecticide and vermifuge comprising an extract of cube root in a suitable organic solvent. Benzol and alcohol are mentioned as suitable solvents.

Australian Patent

15,327/28 (July 24, 1929; appl. Aug. 28, 1928). Powdered Insecticide Containing Active Ingredients of Root of Derris Species. Zaidan Hojin Rikagaku Kenkyujo, Tokyo, Japan.—Derris extract is absorbed by clay or kieselguhr, mixed with sulphur, resin and magnesium carbonate and then finely powdered to make a product that will adhere to plants for a comparatively long time and serve as a stomach insecticide. This patent is similar to British patent 300,606 (U. S. Dept. Agr. Misc. Pub. 120, p. 78, ref. no. 456).

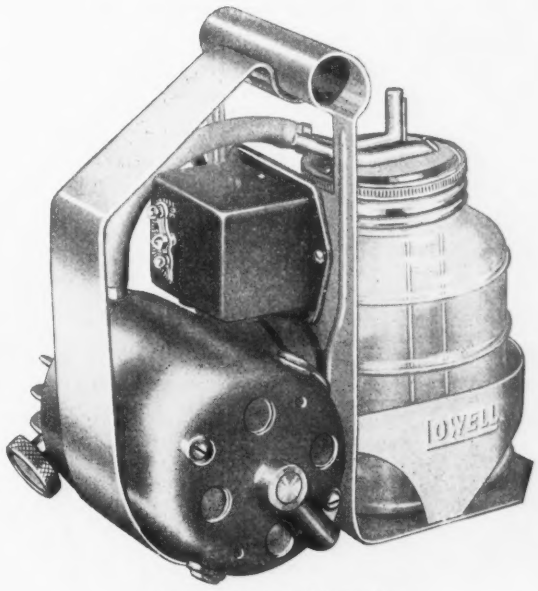
British Patents

105,525 (Apr. 19, 1917; appl. Dec. 4, 1916). Improvements Relating to Insecticides, Sheep Dips, Animal Washes and the Like.—G. J. Lemmens, Wateringbury, and P. J. Fryer, Tonbridge, Kent, England.—The patentees claim in the manufacture of insecticides, sheep dips, animal washes and the like the use of an organic salt or salts, compound or compounds obtained from the seeds, leaves and other portions of the plant of the species and

LOWELL
ELECTRIC INSECTICIDE
VAPORIZER

Plug into Light Socket — Turn on the Power — It Is Instantly Ready for Use. Nothing to Heat Up — and the Fine Dry Spray Instantly Rises in a Cloud of Death to Insects.

Cost of Operation approximately Half that of Steam Outfits.



No. 300 Electric Vaporizer

● **The New, Improved** combination spray head permits the use of either an angle or parallel spray by merely changing the air supply tube to position desired. Portability made easy by carrying handle.

The addition of the convenient pistol grip type handle allows the vaporized contents to be directed into otherwise inaccessible places such as under sinks, into closets and along the mould boards.

Time Switch can be set to any period of time from one to thirty minutes, according to size of room to be treated, and automatically turns off motor at end of period.

Write for Full Particulars to

LOWELL MANUFACTURING COMPANY

Lowell, Michigan, U.S.A.

HOOKER 'PARADI'

(Reg. U. S. Pat. Off.)

Hooker Paradichlorbenzene is specially prepared for use in the manufacture of moth preventives and deodorants and is offered in six standard crystal sizes.

Ready for immediate shipment in 200 and 100 pound barrels and 50 and 25 pound kegs.

HOOKER CHEMICALS

Caustic Soda	Benzyl Alcohol
Liquid Chlorine	Benzotrichloride
Bleaching Powder	Chlortoluene
Muriatic Acid	Aluminum Chloride
Monochlorbenzene	Antimony Trichloride
Ortho-dichlorbenzene	Arsenic Trichloride
Para-dichlorbenzene	Tin Tetrachloride
Trichlorbenzene	Ferric Chloride
Tetrachlorbenzine	Ferrous Chloride
Hexachlorbenzene	Sulfur Monochloride
Sodium Benzoate	Sulfur Dichloride
Ammonium Benzoate	Sulfuryl Chloride
Benzoic Acid	Thionyl Chloride
Benzoic Anhydride	Acetyl Chloride
Benzoyl Chloride	Propionyl Chloride
Para-nitrobenzoyl Chloride	Alpha-Chlornaphthalene
	Special Salt
Benzyl Chloride	Hydrogen

HOOKER HE CO ELECTROCHEMICAL

HOOKER ELECTROCHEMICAL COMPANY

Eastern

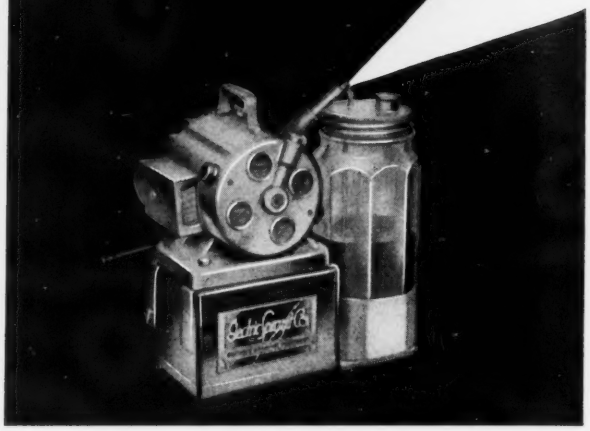
Plant—Niagara Falls, N. Y.
Sales Office—60 E. 42nd St., New York

Western

Plant—Tacoma, Washington
Sales Office—Tacoma, Washington

1527

THE SPRAYIT SANITATOR



A Motor Driven Sprayer in the Price Range of a Steam Type Unit

The minute you plug in the Sprayit Sanitator it starts a war on insect pests. No waiting for water to boil, no salt to guess about, no small insecticide bottle to require constant refilling.

The Sprayit Sanitator applies either standard bulk or the more concentrated insecticides, applying them in finely atomized cloud-like fumes that permeate every crack and crevice. Holds a quart of insecticide. Operates on less than half the current required for a steam vaporizer. The Sprayit Sanitator will give you a nice resale profit and increase your insecticide sales. Write for new low prices today.

Sprayit Hand Sprayers

Sprayit offers a complete line of hand and power sprayers, including the Chemical Sprayer illustrated. Write for circular and price sheet.

SPRAYIT

South Bend
Indiana

varieties of the genus of plants known as *Tephrosia* of the natural order Leguminosae and the sub-order Papilionaceae, particularly the species of Tephrosia known as *Tephrosia vogelii*. This British patent is similar to United States patent 1,242,955 issued to the same patentees on October 16, 1917. (See *Soap* vol. 6, p. 109, Sept., 1930).

350,897 (June 15, 1931; appl. Feb. 15, 1930). Improved Insecticidal, Insect-repelling and Fungicidal Compositions. Standard Oil Development Co., Wilmington, Del.—The patentee claims an insecticidal, insect-repellent, or fungicidal composition comprising petroleum white oil, an extract of a plant having insecticidal properties, and an emulsifying agent. Plants of the genera Derris, Lonchocarpus, Tephrosia, or Pyrethrum may be used. Benzol and isopropyl alcohol are given as examples of suitable solvents for derris and cube. Pyrethrum flowers may be extracted with the white oil. Pyrethrum extract may be used in white oil singly or in combination with derris or cube extract.

362,526 (Dec. 10, 1931; appl. Sept. 10, 1930; in Holland, Sept. 12, 1929). Antifouling Composition. A. J. N. Graafland, Nice, France, and F. J. Nellensteyn, The Hague, The Netherlands. —The patentees claim an antifouling composition against growth of and damage by organisms in water comprising a hydraulic binder and a poisonous substance other than one which acts upon iron to cause formation of salts of iron, the composition being adapted to permanently retain its hydrophile character. A suitable composition is Portland cement, 100 pts. by wt.; powder of blossoms of *Chrysanthemum cinerariaefolium*, 5—30 pts. by wt.; water, 110 pts. by wt. The Portland cement must be carefully mixed with the powder of said blossoms. The mixture is rendered plastic by the addition of a quantity of water, which plastic mixture is applicable in an easy manner, such as, for instance, by painting with a brush, by spraying or the like. After hardening of the coating a porous layer has been formed, in which, because of its hydrophile character, the poison remains effective and prevents the organisms from settling on or in it. Another effective poison is, for instance, an extract from *Derris elliptica*.

377,069 (July 21, 1932; appl. Nov. 27, 1931; in Germany, Nov. 27, 1930). Improved Preparations for Killing Flies. I. G. Farbenindustrie, A. G. Frankfurt-on-the-Main, Germany.—The patentee claims a preparation for killing or eliminating flies comprising an insecticidal substance and a product obtained by subjecting petroleum or a petroleum distillate to partial or complete hydrogenation so that the odor of the non-hydrogenated material is removed. Examples are: (1) 1 kilo of pyrethrum flowers is extracted with four liters of perhydrogenated petroleum boiling between 180° C. and 290° C. The extract is used as agent for killing flies by spraying it into the room. (2) 0.4 part by weight of derris extract (obtained by extracting the roots of *Derris elliptica*, Benth.) and ten parts of diphenyl ether are dissolved in perhydrogenated petroleum boiling between about 180° C. and 290° C., and the solution is utilized in the usual manner for killing flies. When using extracts, as, for instance, extract of pyrethrum flowers, the said hydrogenated products may be used as solvents for preparing these extracts.

378,300 (Aug. 11, 1932; appl. Dec. 12, 1931; in Germany, Dec. 13, 1930). I. G. Farbenindustrie, A. G., Frankfurt-on-the-Main, Germany.—A preparation for killing flies comprises an insecticidal substance (e.g. pyrethrum extract or derris extract) in a non-petroleum oil (e.g. lignite tar oil, coal tar oil or shale oil) that has been partly or completely hydrogenated. The hydrogenated products may be used as the solvent for preparing the plant extracts.

Canadian Patents

293,233 (Sept. 24, 1929; appl. Mar. 12, 1929). Insecticide and Vermifuge. W. J. Dennis, Iowa City, Iowa.—The patentee claims an insecticide and vermifuge comprising ground cube root with the fibrous element removed. This patent is similar to United States patents, 1,621,240, issued March 15, 1927, and reissue 18,667, issued Nov. 22, 1932, to the same patentee.

333,642 (June 27, 1933; appl. Oct., 1929). Insecticide. D. H. Grant, Berkeley Hts., N. J.—Standard Oil Development Co., New York, N. Y.—Claims 2 and 7 of this are as follows: A spray for sensitive foliage comprising a derris extract incorporated in white oil. A spray comprising a concentrated aqueous emulsion of white oil containing rotenone diluted with about 50 to 100 times its volume of water.

Unvarying Quality
Convenient Availability
Immediate Service

Reilly Coal Tar Products are recognized for constancy of quality. They never vary from rigid specifications. Your order, regardless of size, is assured of immediate attention. Twelve plants to serve you.

CRESYLIC ACID
CRESOL
CRESOL U.S.P.
XYLENOL
TAR ACID OILS
NAPHTHALENE

For the Soap and Disinfectant Industry

Reilly COAL TAR PRODUCTS

REILLY TAR & CHEMICAL CORPORATION

MERCHANTS BANK BUILDING • • • INDIANAPOLIS, IND.

SEATTLE, WASH. • PROVO, UTAH • MINNEAPOLIS, MINN. • CHICAGO, ILL. • GRANITE CITY, ILL. • INDIANAPOLIS, IND. • DOVER, OHIO • FAIRMONT, W. VA. • NEWARK, N. J. • NORFOLK, VA. • CHATTANOOGA, TENN. • MOBILE, ALA.

INFLATION

is easily explainable. So are unduly low

PYRETHRUM PRICES

IF only half as much gold is contained in an inflated dollar, naturally it will be correspondingly undervalued in terms of commodities. Similarly, if low grade or adulterated Pyrethrum is offered, possessing a much lower toxic strength than first quality products, it can be sold at substantially lower prices than the best grades must bring.

The growing reputation of W. Benkert & Co. will continue to be based on our ability to supply a high-kill Pyrethrum. We offer:

BENKERT'S PYRETHRUM

Ground Powder

Concentrate No. 15

Derris Red Squills

NRA MEMBER U.S. WE DO OUR PART

W. BENKERT & COMPANY, INC.

100 Gold Street New York City

Chicago
Mr. Even M. Tysdal,
325 West Huron St.,
Chicago, Illinois

St. Louis
Joseph Fahey Brok. Co.,
Cotton Belt Bldg.,
St. Louis, Mo.

Baltimore
Mr. Russell Stoddard,
17 South Charles St.,
Baltimore, Md.

Detroit
Mr. R. M. Stevenson,
2457 Woodward Avenue,
Detroit, Michigan

Soap buyers and users have a way . . .

of picking the right soap for their requirements . .

Myco Oil Soaps have a way of appealing to those buyers and users . . . Read why and then get further information!

MYCO OIL SOAPS
For Effectiveness with Economy
More neutral, truer to consistency, much clearer and transparent. These compounds range in anhydrous soap content from 25% to 65% according to requirements. The purest of vegetable oils saponified with the highest grade alkalies and skillfully compounded make them neutral, quickly dissolving in water, highly saponious, and thoroughly cleansing. More economical because more effective—and properly priced.
USES—For cleaning highly finished surfaces, Furniture, Automobiles, Woodwork, Floors of all types, especially Linoleums, Terrazzo—excepting rubber and marble. Keeps floors free from grime and dirt, polishes the surface and acts as a preservative.
PINE OIL SCRUBBING SOAP
For those who prefer a Liquid Soap
A pure vegetable oil potash product, neutral, and liquified. Has a pleasant pine odor, and some disinfectant qualities, contains no injurious ingredients likely to harm highly finished surfaces.
USES — An efficient liquid cleaner and polish for all types of floors (excepting rubber) and also woodwork, metal ware, windows, bathtubs, kitchen sinks, and many other cleaning surfaces. Dissolves dirt, cleaning the surface with a little rubbing or scrubbing.
Samples, prices and further information forwarded for the asking. Write today.
MASURY YOUNG CO.
76 Roland St. • Boston, Mass.
MYCO PRODUCTS
75 Years of Soap Making Experience-At Your Service.

German Patents

321,317 (May 29, 1920; appl. Dec. 21, 1916). Mittel zur Vertilgung von Insekten und sonstigen auf Tieren oder Pflanzen wohnenden Parasiten. G. J. Lemmens, Wateringbury and P. J. Fryer, Tonbridge, England.—A benzine extract of Tephrosia is used as an insecticide. Essentially the same as United States patent 1,242,955, issued Oct. 16, 1917, to the same patentees (see *Soap*, vol. 6, p. 109, Sept., 1930).

327,583 (Oct. 11, 1920; appl. Dec. 22, 1916). Mittel zur Vertilgung von Insekten und sonstigen auf Tieren oder Pflanzen wohenden Parasiten. G. J. Lemmens, Wateringbury and P. J. Freyer, Tonbridge, England.—Powdered Tephrosia is used as an insecticide. Essentially the same as United States patent 1,242,954, issued Oct. 16, 1917, to the same patentees (see *Soap*, vol. 6, p. 109, Sept., 1930).

564,018 (Nov. 12, 1932; appl. July 5, 1931). Mittel zur Bekämpfung von Musciden und sonstigen Insekten. A. Steindorff, K. Pfaff, R. Krämer and H. Kern, Frankfurt a.M.-Höchst, Germany.—I. G. Farbenindustrie, A. G., Frankfurt-on-the-Main, Germany.—Pyrethrum extract, derris extract or synthetic insecticides are mixed with urethanes or their substitution products for use against flies. An example is 5 per cent phenylurethane and 10 per cent phenylsalicylate in petroleum of 180 to 270° C. boiling range.

Holland Patent

21,841 (May 15, 1930; appl. Feb. 10, 1926). Method of Preparation of an Insecticide which Contains the Active Principle of Derris Species Obtained by Extraction with Organic Solvents. Nettai Sangyo Kabushiki Kaisha, Tokyo, Japan.—An insecticide whose activity is due to the active principle of derris root, obtained by extraction with an organic solvent, is made by mixing the extract with one or more kinds of oils, fats, waxes, resins, higher alcohols, higher hydrocarbons, higher fatty acids (not including sulphonated oils or fatty acids) which are absolutely free from water or alkali. For example, a solution of 10 grams rotenone in 10 liters ether is mixed with about 400 grams fish oil and 40 grams hard oil. After complete mixing (stirring) a large part of the ether is recovered by evaporation and condensation. The volume is reduced to about one-half. Before using, 500 grams soap are dissolved in 100 kilograms water and into this is mixed the reduced portion above. Finally, the mixture can be diluted with 100 kilograms water.

Japanese Patents

91,478 (May 20, 1931). Insecticide. T. Iiba and S. Nakatuka.—Daiiti Kogyo Seiyaku K.K.—A mixture of 67.6 per cent trichlorethane and 32.4 per cent methyl alcohol (the minimum boiling mixture) is used as a solvent in extracting chrysanthemum or derris root. The solvent is distilled and the residue used as an insecticide. (From Chem. Abs. 26: 1703. 1932).

91,645 (June 3, 1931). Insecticide. Y. Imai.—An insecticide consists of vegetable volatile oils (such as turpentine or camphor oils), naphthalene, and extracts of derris roots. (From Chem. Abs. 26: 1703. 1932).

91,875 (June 20, 1931). Insecticide. T. Isihara.—Dried roots of plants belonging to the derris group are cut into pieces and powdered under cooling by a special stamping machine. The powder passed through a 60-mesh sieve is used as an insecticide. (From Chem. Abs. 26: 1703. 1932).

Much interest has been shown recently in hydrocarbon oils as solvents for rotenone and the other constituents of derris root. Fly sprays are now being marketed that comprise a petroleum distillate of the general nature of kerosene in which is dissolved rotenone or allied extractives from derris or cubé. It is of interest to note that three recent commercial developments are foreshadowed in the patents reviewed in this article. These developments are: (1) The use of derris extract, haiari extract, or rotenone in solution in a petroleum distillate (e.g., white oil or petroleum naphtha); (2) the use of white oil, petroleum naphtha and partly or completely hydrogenated petroleum oils as solvents for the extraction of insecticidal ingredients from derris; and (3) the use of an admixture of derris extract and of pyrethrum extract in a petroleum oil solvent.

Bulk Polishes

Specially Formulated for All Purposes

In a complete line of polishes for the jobbing trade we feature our liquid metal polish—absolutely non-separating. Jobbers everywhere are building repeat business with this new product. A sample will tell you why. Other bulk polishes include paste polishes for silver, emulsion type polishes for furniture, automobiles and glass, etc. What are your needs?

Other Specialties for Jobbers Include

SOAP BASE

Six Point Soap Base—made from highest grade materials, high soap content, readily soluble, neutral, maximum lather and variety of shades and odors.

DISINFECTANTS

Both soluble and emulsion type coal tar disinfectants with coefficients of from 2 to 50. We also supply high quality pine oil disinfectants.

FERGUSSON LABORATORIES

24 OREGON AVENUE
PHILADELPHIA, PA.

NRA MEMBER U.S. WE DO OUR PART

Div. of Alex C. Fergusson Co.
Established 1855

Our Products Guaranteed to Test and Quality

"SERRID" PRODUCTS of DERRIS ROOT

A complete range of Derris products uniform as to qualities, standardized as to Rotenone content, and sold on this basis. Available in large quantities to manufacturers of insecticides.

For Fly Sprays
"SERRID" DOUBLE X

A combination Rotenone pyrethrum oil concentrate that will stay in solution,—a decided improvement in the field. Sold on a kill basis as high as 85%. With this base manufacturers may improve their product and lower their costs.

For Agricultural Sprays
"SERRID" SUPERSPRAY

A finished concentrated liquid plant spray sold in bulk for repackaging. Highly effective against mealy bug and red spider. Tested and proven by prominent entomologists.

DERRIS, Inc.
79 WALL STREET, NEW YORK

MEMBER NATIONAL ASSN. INSECTICIDE AND DISINFECTANT MFRS. INC. 1914 INC.

Powdered Root, standardized, is most effective in household powders. For protection of vegetable and fruit crops, powdered Derris Root is not only efficacious but leaves no poisonous residue.

LIQUID SOAP BASE & SHAMPOO BASE IN BAR FORM

For your convenience. Does away with messy digging out. A uniform Liquid Soap easily made with Base Bars without the trouble of weighing. Each bar weighs 5 lb. net. Dissolves readily into clear solutions.

This product will save you money, time and labor.
Send for further information, samples and price.

NEW YORK SOAP CORPORATION

294 PEARL STREET — NEW YORK CITY

Liquid Soap 10% to 50%
Liquid Soap Base
Liquid Floor Cleanser

Other Quality Products
Shampoo Base
Liquid Shampoo

Liquid Soap Super-Concentrate
Self Polishing Floor Wax
Soft Potash Soaps

Control of House Ants

(*From Page 89*)

IN some sections of the South where it is almost impossible to rid the premises of ants, various barriers are used. Foods wanted "ant free" may be kept on tables, the legs of which are set in cans containing kerosene. Tape soaked in a saturated solution of corrosive sublimate serves a similar purpose, as does also a shellac containing the sublimate recommended for use on table legs. Recommendations from official sources of barriers run as follows: corrosive sublimate tape 4, corrosive sublimate shellac 1, kerosene cups 4, sassafras oil 1.

Powders

SODIUM fluoride is recommended to be dusted about in kitchens, pantries, across door treads and window sills, especially in places where "workers" are seen entering or leaving a room. Only two experiment stations recommended pyrethrum powder for similar purposes (Illinois and Kansas), and Illinois alone recommends powdered derris. The survey reveals the following official sources recommending powdered insecticides as a means of controlling ants: sodium fluoride 25, sodium fluosilicate 2, pyrethrum 3, derris 1, borax 1.

There are no instances of official recommendations giving fly spray for ant control. Fly sprays can be used effectively against ants as contact insecticides in much the same manner as are the powders. Occasional infestations have been completely eliminated by fly sprays and the liberal use of such sprays has withheld reinfestations for from three to five days. House nesting species have been controlled with liberal soaking of fly spray introduced near the nest. Sprays of this kind may be substituted for other petroleum products in the treatment of nests out of doors.

A majority of the materials now recommended for ant control are either poisonous or highly toxic to humans, or are hazardous from the standpoint of fire. In the numerous publications and correspondence on the subject reviewed, these points were carefully brought to the attention of those employing the recommendations.

In preparing this report your committee has consulted some fifty pieces of literature and correspondence, a few of which are cited. We are especially grateful to the State and Experiment Station Entomologists, and the Extension Departments and Mr. E. R. Barber.

Literature

1. Barber, E. R.—The Argentine Ant as a Household pest. U.S.D.A. Farmers' Bull. 1101, 1925.
2. Davis, J. J.—Insect Problems in the home—1928. Purdue Agric. Exp. Circular 150, p. 14-16.
3. Flint, W. P.—Illinois Extensions Cir. 257, Control of Household Insects, p. 1-7—1931.
4. Ford, A. L. & Covert, M. A.—Eliminating Waste caused by household pests. S. D. Ext. Circ. 320, p. 12-14.—1933.
5. Gileson, A. & Twinn, C. R.—Household Insects and thin control. Can. Dept. Agric. Bull. 112 (N.S.), p. 24-25—1929.
6. Headlee, T. J.—New Jersey Extension Circ. 265, House Ants —1933.
7. Herrick, G. W. & Griswold, G. H.—Common Insects of the Household. Cornell Ext. Bull. 202, p. 25-30—1931.

Barrett Standard

CHEMICALS

Barrett Standard Chemicals are produced to strict specifications under rigid scientific control. The result is uniformly dependable, high-quality products.

A competent Barrett Technical Staff will gladly assist you in production problems involving the use of Barrett Standard Chemicals. Phone, wire or write.

◆

BARRETT STANDARD CHEMICALS

PHENOL (Natural)
U. S. P. 39.5° M. Pt. and 40° M. Pt.
Technical 39° M. Pt.
Technical 82-84% and 90-92%

CRESOL
U. S. P., Meta Para, Ortho, Special Fractions.

CRESYLIC ACID
99% Straw Color and 95% Dark.

XYLENOLS
TAR ACID OILS
NAPHTHALENE
Crude, Refined Chipped, Flake and Ball.

PYRIDINE
Refined, Denaturing and Commercial.

HYDROCARBON OIL . . . BENZOL . . . TOLUOL . . . XYLOL . . . SOLVENT NAPHTHA . . . HI-FLASH NAPHTHA

TRADE B MARK

THE BARRETT COMPANY
40 RECTOR ST. NEW YORK, N. Y.

DOBBINS *high pressure* CHEMICAL SPRAYERS

No. 35—3 qt. Capacity
No. 30—1½ gal. Capacity

We also manufacture other
Sprayers,
Sanitary Chemical Closets,
Mop Wringers,
and other metal specialties.

Controlled Atomization!

IT DOESN'T PAY TO TRUST TO LUCK.

If your product requires a sprayer for dispensing or application, the selection of the sprayer is of utmost importance to you.

Your success or failure in business depends largely on the effectiveness of your product.

PROPER ATOMIZATION is most essential to the effectiveness of Insecticides, Disinfectants, and Germicides.

CONTROLLED ATOMIZATION, through air regulator, is an exclusive patented feature of Dobbins high pressure Chemical Sprayers.

THE NOZZLE has a wide range of adjustment, from a forceful, penetrating spray, to a medium mist, or a fine floating fog, with in between variations by a slight turn of the air control valve.

DOBBINS Sprayers will solve your spray problems.

No. 10—1½ gal. Capacity. A New Chemical Sprayer with Air Regulator and Volume Control

DOBBINS MANUFACTURING COMPANY

NORTH ST. PAUL
MINNESOTA

PORTLAND
OREGON

Write for complete catalog and price list.

SALES PSYCHOLOGY

WHY NOT LET YOUR BUYING PUBLIC DETERMINE THE SALES VALUE OF YOUR MERCHANDISE?

WE OFFER TO SHARE

Your Initial Cost by Giving You Two New Items at Below Cost Prices for a Limited Time

A Pleasing Perfume Material for
PARA PRODUCTS
(Parafum L-659)

A very pleasant perfume oil made to blend with and mask the odor of Paradichlorbenzine.

Special introductory price $1.25, regular price thereafter $1.75.

A Highly Satisfactory Perfume Material for
PARA PRODUCTS
(Parafum O-884)

An especially suitable perfume oil to entirely mask the odor of Paradichlorbenzine.

Special introductory price $1.25, regular price thereafter $1.75.

Both introductory price offers are good only until April 15, 1934.

BUDD
Aromatic Chemical Co. Inc.
667 WASHINGTON STREET, NEW YORK

ESSENTIAL OILS
COMPOUND SPECIALTIES
AROMATIC CHEMICALS

U. S. Representatives
N. V. POLAK & SCHWARZ'S
ESSENCE-FABRIKEN

8. Marcovitch, S.—How to combat certain pests of the household. Tenn. Agric. Exp. Bull. 147, p. 14-15—1933.
9. Marlatt, C. L.—House Ants, U.S.D.A. Farmers' Bull. 740—1930.
10. Parks, T. H. & Jones, M. P.—Ohio Extension Bull. 97, Injurious Household Insects, p. 10-12—1933
11. Ruggles, A. G.—Minnesota Ext. Circ. 38, Ants—1932.
12. Smith, M. R.—Controlling Common Mississippi Ants, Quart. Bull. State Plant Bd. V111 2, p. 1-6—1928.
13. Stiles, C. F.—Methods of Control of Household Pests. Okla. Agric. Ext. Circ. 223, p. 18-20—1933.

——o——

Derris in Fly Sprays

(From Page 87)

(5) The high degree of effectiveness of most of the eight samples (table 2) indicates that the quantity of root extracted with 100 cc of kerosene was too large to permit the best differentiation of their insecticidal values. Tests were therefore made to find out whether derris sample No. 401, containing no rotenone, and cubé sample No. 686-A, containing 11.2 per cent rotenone, were actually of equal value as the first tests indicated. The average results of six series of tests of extracts from 1, 5, 10 and 20 gm samples of these roots are given in table 3, and the relation between weight of root extracted and

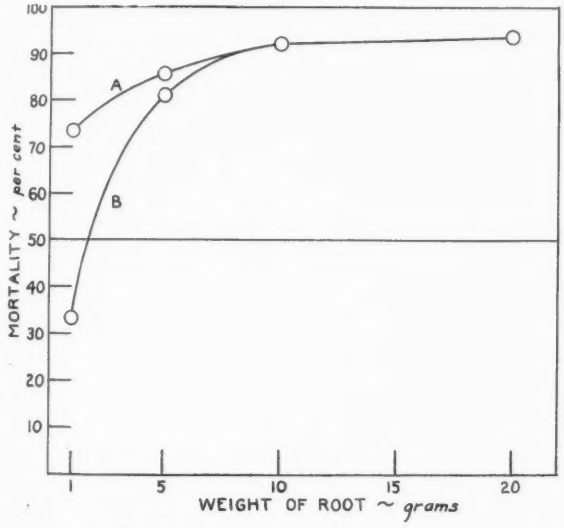


Figure 5. Relation of weight of root extracted with 100 cc. of kerosene to mortality of house flies in 3 days after treatment by the laboratory method. A = extract of cubé No. 686-A; B = extract of derris No. 401.

average mortality in three days is shown in figure 5. At 1 gm of root per 100 cc of kerosene, No. 686-A was decidedly more effective than No. 401. In the light of the foregoing discussion it seems reasonable to suppose that the greater effect of No. 686-A at the lowest concentration was due to the extraction of an effective quantity of rotenone from 1 gm of that root.

After weighing all the evidence now at hand, the writers believe that rotenone is not the only toxic component of kerosene extracts of these plants, but that it is an important one.

DISINFECTANTS

Coal-Tar
Pine Oil
Cresol

We also wish to call your attention to our new line of

Floor Maintenance Materials

Lusterize—A water-emulsion wax which dries hard and glossy without rubbing. Waterproof, odorless, and conforming to all specifications.

All Brite—A high-grade neutral floor soap made especially for cleaning linoleum, rubber and asphalt tile.

Supersan Pine Floor Soap—For general floor scrubbing on terrazzo, tile, wood, and other types where a stronger cleansing action is desired.

Supersan Paste Wax—A superior solvent wax.

Supersan Liquid Polishing Wax—Gives harder and glossier finishes than you have seen heretofore.

Let us send you samples and full information

CHEMICAL COMPOUNDING CORPORATION

262 Huron St., Brooklyn, N. Y.

J. W. ELLIS, PRESIDENT

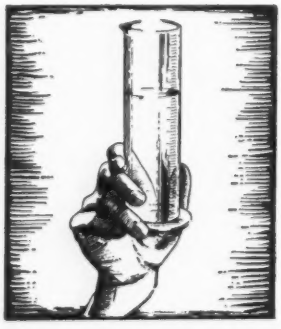
A 36 YEAR OLD BUSINESS FORMULA THAT STILL WORKS

Thirty six years ago, J. W. Ellis founded a business based on VALUE. He made the best disinfectants and other products he could make from the best materials he could get. He offered them at prices consistent with quality.

Under the leadership of its founder, The Chemical Supply Co.'s products rapidly acquired a reputation for dependability. They are handled by aggressive jobbers everywhere and sales are jumping sharply. Yes—a 36 year old formula has proven itself again.

THE CHEMICAL SUPPLY CO.
2450 CANAL ROAD CLEVELAND, OHIO
Since 1898

PERMANENTLY CLEAR INSECTICIDES



One of the highly objectionable features about insecticides made from Pyrethrum Flowers or Pyrethrum Extracts is the sediment or deposit which always develops in such insecticides on standing.

LETHANE 384

is entirely free from this weakness because LETHANE 384 is an organic chemical which is wholly soluble in petroleum distillates and which does not change in any way on standing. In addition, LETHANE 384 is cheaper, more convenient, more uniform and more effective. For complete satisfaction—use LETHANE 384.

RÖHM & HAAS CO., Inc.
222 West Washington Square • Philadelphia, Pa.

Table 3.—Average results of 6 series of tests against house flies, showing the relative effectiveness of kerosene extracts of a sample of derris root containing no rotenone and those of cube root containing 11.2 per cent rotenone.

Liquid tested	Quantity of root extracted with 11 cc. of kerosene Grams	House flies dead in— 1 day Percent	2 days Percent	3 days Percent	House flies dead and down in— 1 day Percent	2 days Percent	3 days Percent
Kerosene extracts of derris root No. 401	20	57.0	87.3	92.7	97.3	98.7	99.0
	10	54.0	83.3	92.0	95.7	99.0	98.7
	5	39.7	66.7	81.0	89.7	90.7	93.0
	1	15.3	22.7	33.3	36.0	37.3	42.7
Kerosene extracts of cubé root No. 686-A	20	55.0	83.7	92.7	95.0	96.0	98.7
	10	50.7	80.7	92.0	93.3	94.7	97.7
	5	42.0	71.3	85.7	89.7	94.0	93.7
	1	37.3	56.3	73.3	79.7	78.7	86.0
Rotenone checks (in cyclohexanone-kerosene) 1:2000		44.7	64.0	79.0	82.3	83.7	89.0
1:4000		27.7	45.7	63.0	62.7	69.7	73.3
1:8000		20.3	30.7	39.7	34.7	44.7	49.7
Kerosene check		6.3	8.0	9.0	7.3	8.0	9.7

Since rotenone is apparently not the only important toxic substance in derris, cubé and haiari, it would seem that a better chemical indication of their value as sources of insecticidal extractives might be obtained by the determination of some group of atoms common to molecules of rotenone and similar toxic substances. Tattersfield and Roach (*11*) were the first to suggest the determination of the methoxyl group, which is now known to be present in about the same percentage in the molecules of all toxic compounds so far isolated from rotenone-bearing plants. The methoxyl content of the plant materials listed in table 1 was therefore determined.

Among the three samples of cubé (tables 1 and 2) methoxyl content stood in the same order as effectiveness of their kerosene extracts. Among the four samples of derris the relation was not clear, possibly because all the derris extracts were too highly toxic at the concentrations tested to permit differentiation of their effectiveness. It must be remembered also that the methoxyl content of the plant materials listed in table 1 was determined on acetone extractives and not on kerosene extractives, which may not have the same composition. Derris No. 401 contained no rotenone but had a methoxyl content of 1.30 per cent, and its kerosene extract was effective. It is therefore quite possible that methoxyl content may be a better chemical measure of insecticidal value than rotenone content, at least when comparisons are made among samples of the same species or genus of rotenone-bearing plant.

Summary

Kerosene extracts of four samples of derris root, three of cubé root, and one of haiari stems were tested against house flies by a modified laboratory method. All were effective. The extracts of derris were on the whole more effective than those of cubé. The extract of haiari stems was the least effective. Rotenone is not the only toxic component of kerosene extracts of these plant materials, but it appears to be an important one. Methoxyl content may be a better chemical index of the insecticidal value of rotenone-bearing plants than rotenone content.

Literature Cited

1. Campbell, F. L., 1932. Review of information on the insecticidal value of rotenone. U. S. Dept. Agr., Bur. Ent. Publ. E-298, multigraphed; 28 p.

COSTLY EXPERIMENTS

Costly Experiments are profit chokers. Modern day competition and modern day requirements demand the utmost in a perfume medium for your Fly Sprays and Insecticides.

A complete line of MM&R Perfume Oils for these purposes express tomorrow's thoughts today.

Increased use of completely deodorized Petroleum bases, suitable for replacing kerosene insecticides, permits the manufacturer a selection of more delicate and agreeable odors. We recommend:

OIL ROSE BLANC MM&R
OIL COLONIAL BOUQUET MM&R
OIL PINE NEEDLE BOUQUET V. H. MM&R
OIL NOVELTY BOUQUET "C" MM&R
OIL BOUQUET L. G. MM&R

Used in the proportion of 1 to 2 drams to the gallon, they will impart a delightful, flowery fragrance to your finished spray.

We solicit your inquiries.

MAGNUS, MABEE & REYNARD, INC.
32 Cliff St. New York

ESTABLISHED 1895

Essential Oils

Aromatic Chemicals *Perfume Materials*

NINETEEN QUALIFIED SALES REPRESENTATIVES ACQUAINTED WITH YOUR NEEDS VISIT PRACTICALLY EVERY CITY IN THE UNITED STATES PERIODICALLY.

SPECIALTY SOAPS

LIQUID SOAP BASE
Coco Oil—60%—Natural, Opal, Green

LIQUID SOAPS
Coconut ..... 10% to 45%
Olive Oil .... 10% to 30%
Colored and Perfumed

SCRUBBING SOAPS
Pine, Sassafrass, Plain

LIQUID SHAMPOOS
Coconut Oil .. 30% to 45%
Olive Oil 30%
Castile 30%

POWDERED and GRANULATED SOAPS
Castile, U. S. P.
Coco Castile 50-50
Pure Coconut

SOFT POTASH SOAPS
Light and Dark
U. S. P. 9th and 10th

PHONE CUMBERLAND 6-2800
KRANICH SOAP CO.
54-60 RICHARDS ST. BROOKLYN, N.Y.

NRA U.S. WE DO OUR PART

KOPPERS

TAR ACIDS
CRESOL U.S.P
CRESYLIC ACID
98% & 100% • STRAW COLOR
TAR ACID OILS
PHENOLS
NEUTRAL
HYDROCARBON OIL

KOPPERS PRODUCTS COMPANY
1249 KOPPERS BUILDING
PITTSBURGH, PA.

2. Clark, E. P., 1932. The Viebŏck and Schwappach method for the determination of methoxyl and ethoxyl groups. Jour. Assoc. Off. Agr. Chem. 15: 136-140, illus.
3. Geoffroy, E., 1895. Contribution a l'étude du Robinia nicou Aublet. Ann. Inst. Colon. Marseille (1895) 2: 1-86, illus.
4. Gnadinger, C. B. and Corl, C. S., 1932. The relative toxicity of pyrethrins and rotenone as fly spray ingredients. Jour. Econ. Ent. 25: 1237-1240.
5. Jones, H. A., 1933. Assay of plant material for its rotenone content. An extraction method. Ind. Eng. Chem., Anal. Ed. 5: 25-26.
6. Jones, H. A., Gerdorff, W. A., Gooden, E. L., Campbell, F. L., and Sullivan, W. N., 1933. Loss in toxicity of deposits of rotenone and related materials exposed to light. Jour. Econ. 26: 451-470, illus.
7. LaForge, F. B. Unpublished data.
8. Richardson, H. H., 1931. An insecticidal method for the estimation of kerosene extracts of pyrethrum. Jour. Econ. Ent. 24: 97-105, illus.
9. Richardson, H. H., 1932. An efficient medium for rearing house flies throughout the year. Science 76: 350-351.
10. Tattersfield, F. and Morris, H. M., 1924. An apparatus for testing the toxic values of contact insecticides under controlled conditions. Bul. Ent. Research 14: 223-233, illus.
11. Tattersfield, F. and Roach, W. A., 1923. The chemical properties of Derris elliptica (Tuba root). Ann. App. Biol. 10: 1-17, illus.

(Part II.—"Comparative Tests of Extracts of Derris and of Pyrethrum" will be published in the next issue.)

—o—

A mothproofing composition consists of a chlorinated hydrocarbon extract of cubé incorporated in a mixture consisting of 9 parts of a light hydrocarbon oil and 1 part of chlorinated hydrocarbon. Elmer W. Adams to The Standard Oil Company. Canadian Patent No. 338,896.

—o—

A solution for rendering fabrics mothproof contains extract of derris in petroleum naphtha having a boiling point of 450-550° F. William J. McGill to The Standard Oil Company. Canadian Patent No. 338,897.

—o—

Liquid insecticides may be emulsified in a medium containing a sodium or potassium resinate or soap, an appropriate protective colloid such as casein, and an excess of resin or fat. The medium is prepared by vigorous grinding at 60-80° C. Antoine C. Gillet. French Patent No. 751,827.

—o—

A detergent salt mixture contains a water-soluble detergent and bactericide, the detergent being at least equal in amount to the bactericide. The mixture comprises an alkali metal carbonate and a stable calcium hypochlorite. Maurice C. Taylor to The Mathieson Alkali Works. Canadian Patent No. 338,357.

—o—

Sodium ricinoleate, in 1:1000 solution, was studied as a bactericide. Common and pathogenic bacteria of the intestinal tract were unaffected; Streptococci were killed, but staphylococci were not. H. Violle, *Compt. rend.* Vol. 197, p. 714-716.

—o—

Sprai, Inc., New York, has appointed Adrian Bauer Advertising Agency, Philadelphia, to handle advertising for its insecticide "Sprai." Sprai, Inc., is affiliated with Etna Chemical Co., London.

SHERWOOD'S
DI=BUG
KILLS

DI-BUG PYRETHRUM EXTRACTS NO. 20 AND NO. 5 have exceptionally high pyrethrin content.

DI-BUG STEAM-O-CIDE is especially effective in steam and electric sprayers.

DI-BUG CATTLE SPRAY
Effective and protective

DI-BUG INSECTICIDE
Unperfumed and perfumed.
(Sold in bulk to jobbers only)

DI-BUG PYRETHRUM FLOWERS, Whole, Granular, Fine Powdered.

ALL PYRETHRUM LIQUIDS TESTED BY PEET-GRADY METHOD.

DI-BUG SPRAYSENE
A petroleum oil refined to practically complete freedom from kerosene odor.

SHERWOOD
PETROLEUM COMPANY, INC.
Bush Terminal - - - Brooklyn, N. Y.
BRANCHES
Chicago, Ill. Memphis, Tenn.
Detroit, Mich. Atlanta, Ga.
Boston, Mass. New Orleans, La.
Philadelphia, Pa. Birmingham, Ala.
REFINERY—WARREN, PA.

Can You Supply

Bulk or Private Brand

SOAPS — SOAP BASE — DISINFECTANTS CLEANSERS — POLISHES — HOUSEHOLD INSECTICIDES, ETC.?

THERE is a real market among the readers of SOAP for all kinds of bulk and private label soaps, liquid soaps, disinfectants, deodorants, cleaning preparations, polishes, fly sprays, insecticides, etc.

MANY companies are not in a position to manufacture each and every product which goes to make up their complete line. Products not manufactured are, quite naturally, bought in the trade. Then, there are other manufacturers looking to expand their lines without increasing their manufacturing facilities. Are you in a position to handle this kind of business in your specialties?

IF YOU do or can manufacture any of these products in a large way and desire to dispose of a portion of your output to be sold to other manufacturers and distributors, to be marketed under private brand or for repacking, it will pay you to apprise the trade of this fact through the advertising pages of SOAP.

Write to the Advertising Department of SOAP, 136 Liberty St., N. Y., for further information.

Board Plans Chicago Meeting

At the regular quarterly meeting of the Board of Governors of the National Association of Insecticide and Disinfectant Manufacturers, held March 7th at the Hotel New Yorker, New York, preliminary plans for the annual mid-year meeting to be held in Chicago on June 11 and 12 were made. The mid-year meetings will be held again at the Edgewater Beach Hotel and will be confined chiefly to commercial subjects, legislation, credits, costs, and code matters. The meeting sessions will be closed to members. The general convention committee is headed by H. W. Hamilton of White Tar Co. The Chicago program is in charge of J. L. Brenn of Huntington Laboratories, Huntington, Ind., and Henry A. Nelson of The Chemical Supply Co., Cleveland.

The insecticide and disinfectant code, the Tugwell Bill and associated legislation came in for extended discussion at the board meeting. After discussing elegibility for active membership in the Association for some time, the Board decided that all firms coming under the Insecticide Act of 1910 were eligible as active members, subject to a later conference on this subject with the legal division of the NRA and possible change in by-laws. Peter Dougan, president of the Association, presided. Others present included Secretary John Wright of Zonite Products Corp., Treasurer John Powell of John Powell & Co., Vice-president W. J. Andree of Sinclair Refining Co., W. H. Geselle of Lehn & Fink, Inc., Dr. Robert C. White of R. C. White Co., W. J. Zieck of Stanco, Inc., and H. W. Hamilton of White Tar Co.

—o—

Hold Exterminating Code Hearings

Open hearings on the code for the exterminating and fumigating industry were held in Washington, March 12, with approximately fifty members of the industry present. A number of objections were entered to the code as filed. The code provided for basic hours totaling 44 per week, and wages ranging from $13 to $21 depending on location of company.

—o—

Norda Essential Oil & Chemical Co., New York, is introducing a new line of odors for paradichlorbenzene blocks under the name, "Dichloromas." There are four series in each of which the following odors are available: rose, bouquet, violet, jasmin, new mown hay, lilac and Tyrolean pine.

—o—

A new insecticide vaporizing machine has been announced by B. Dougherty & Son, 370 Seventh Ave., New York, under the name Pest-O-Lator. The makers indicate it's all metal construction, eliminating possible breakage of glass parts, ease of operation and lack of complicated parts as the principal features of the new machine. It is being offered to the trade along with Pest-O-1, a new insecticide concentrate especially developed for use in the Dougherty vaporizer. The insecticide does not contain pyrethrum.

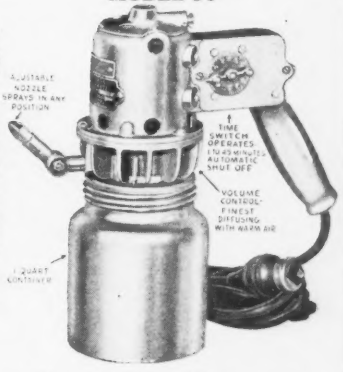
HERE IT IS!

AUTOMATIC—SAFE—TROUBLE FREE
FINEST CONTROLLED ATOMIZATION
WITH THE NEW

TORNADO ELECTRIC SPRAYER

MODEL 54

Here is the new sprayer you've been looking for. It features an automatic time switch set at any point from 1 to 45 minutes—sprays desired amount without any attention whatever—automatically shuts off. Can also be used for hand spraying. Adjustable nozzle can be set for spraying in any position. Also exclusive volume control adjustment permits spraying one ounce every two to four minutes with either fine or heavy spray. Don't fail to get the facts on this new type sprayer before buying.


ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
TIME SWITCH OPERATES 1 TO 45 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL-FINEST DIFFUSING WITH MAXIMUM AIR
1 QUART CONTAINER

Also Most Complete Line of Electric Sprayers to Enable You to Meet Every Spraying Problem

Model 53 new Compressor Type unit with new adjustable volume control. Will break insecticide into *finest* mist and gas formation mechanically obtainable. Floats throughout spraying area for many minutes—a truly de luxe model! ⅛ H.P. G.E. Universal Motor. 1 quart metal container. 20′ of rubber covered cable.

Model 50 Fan Type unit. A fine insecticide atomizer. Sprays distance of 8′ to 10′. ⅛ H.P. G.E. Universal Motor, 1 pint glass jar. 20′ of rubber covered cable.

Model 6 Fan Type unit. Will break insecticide into a very fine mist. Sprays 18′ to 20′. 1/3 H.P. G.E. Universal Motor, Norma Ball Bearings, 1 gallon metal container. This model is for larger institutions, warehouses, industrials, etc., and is also highly recommended for moth-proofing solutions. Write today for complete description and circulars.

BREUER ELECTRIC MFG. CO.
862 Blackhawk Street **Chicago, Ill.**

We do not sell insecticides. Our business is manufacturing sprayers.

Bulk

Shampoo Bases
Liquid Soap Base
Green Soft Soaps

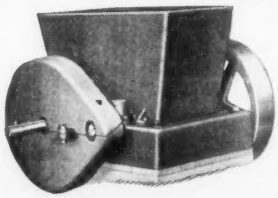
Liquid Shampoos
Liquid Toilet Soaps
Scrubbing Soaps

For Repacking and Jobbing 55 *years' experience assures satisfaction.*

GEO. A. SCHMIDT CO.
INCORPORATED
Manufacturers of SOAPS *of Every Description*
236-238 West North Avenue
Chicago

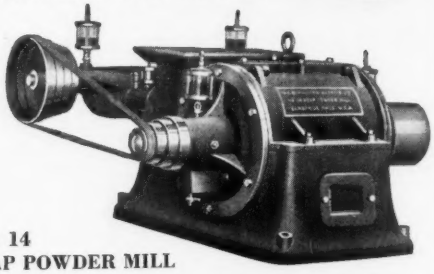
BLANCHARD

SOAP POWDER MACHINERY



NO. 9 CRUSHER

NO. 10-A SOAP POWDER MILL



NO. 14
SOAP POWDER MILL

WRITE FOR OUR DESCRIPTIVE CIRCULARS

THE BLANCHARD MACHINE COMPANY
14 STATE ST. CAMBRIDGE, MASS., U. S. A.

FLOOR WAX

. . . gloss drying
. . . resists water
. . . will not spot

HAMMOND'S self-polishing liquid wax dries to a bright gloss,—not to a dull "bloom". Made from pure carnauba wax,—hence water resistant and will not spot. Contains a higher percentage of solids to give a better, more durable, longer lasting floor finish. Not slippery. The finest product of its kind.

Hammond's self-polishing liquid wax is offered in bulk only to the jobbing and repackaging trade. Available at very attractive prices to the trade. Let us send you samples, prices, and further details about this new Hammond product.

Since 1875

HAMMOND
Paint & Chemical Co.
BEACON NEW YORK

THE GOLDEN COLOR IN FLY SPRAY

does not prove killing strength, but indicates that if the more delicate color of the Flowers is unharmed by the Process, certainly the more robust

KILLING ESTERS

ARE ALSO UNHARMED

YOU CAN MAKE HIGH COLOR

FLY SPRAY *By Using*

AN-FO BRAND

No. 20

CONCENTRATED PYRETHRUM EXTRACT

1 GAL. TO 19 GAL. HYDRO CARBON DISTILLATE

The fly spray will have a minimum knock-down in ten minutes of 95 per cent and a minimum kill in twenty-four hours of 60 per cent.

The fly spray will contain a minimum of 4 grams combined A & B Pyrethrins per gallon.

KILL-COLOR-ODOR
AN-FO MFG. COMPANY, OAKLAND, CALIF.

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 136 Liberty St., New York.

Note: All advertisements must be in publisher's hands by the first of the month for that month's issue.

Positions Wanted

Position Wanted—By reliable soapmaker with a broad knowledge of soapmaking and many years of practical experience. Address Box 325, care *Soap*.

Service: To a firm that cannot afford a full time soapmaker, I can render good service. Experienced in all lines. Address Box 326, care *Soap*.

Chemical Engineer, Plant Superintendent—Thoroughly and widely experienced in the manufacture and production of cold made and boiled soaps on large scale. Address Box 329, care *Soap*.

Specialty Chemist—Single, 41. Extensive plant and laboratory experience in the manufacture of potash soaps (automobile and liquid), disinfectants, insecticides, deodorants, cleansers, polishes, non-rubbing waxes, lubrication greases. Location immaterial. Address Box 330, care *Soap*.

Soap Maker and Chemist—Can make all kinds of soaps. Has long experience in soap business and good record. Desires new connection. Address Box 331, care *Soap*.

Soap Chemist and Chemical Engineer—Specialist in the manufacture of oil and liquid soaps; fine shampoos and soap powders. Fourteen years' thorough training; analytical control; will manage complete production. Interested in connection with greater responsibility. Address Box No. 338, care *Soap*.

Sales Manager with plenty of experience training and directing men and women; suggesting and designing new items and packages; getting new accounts; and increasing business with the old ones; is in the market for a job. Old enough to have been through the mill from cub to boss; young enough to have the enthusiasm that delights in hard tasks. If you want more sales; expand your present ef-

Here It Is—*The Handy Sprayer You've Been Looking For!*

Pint Size
Height, 10 in.
Quart Size
Height, 11½ in.

FOR spraying disinfectants, moth and fly killing liquids in homes, schools, hospitals, factories, poultry houses, etc. For spraying insecticides on flowers, house plants, dampening cigar wrappers and clothes before ironing. Used in beauty parlors for spraying finger waving liquid on the hair.

Nozzle throws powerful, large, broad mist. Will spray in any direction. Long pump stroke, easy pumping.

Sprayer is made entirely of heavy brass, nickle-plated throughout. May be entirely disassembled for cleaning when desired. Sprayer screws to blue glass bottle. Furnished complete with bottle or may be had without bottle in quantities with special bottle screw cap.

We Also Manufacture a Full Line of:

HAND SPRAYERS
COMPRESSED AIR SPRAYERS
POWDER DUSTERS
ELECTRIC PAINT SPRAYERS
WHEELBARROW SPRAYERS
BUCKET & WHITE WASH PUMPS
BARREL SPRAY PUMPS
BOTTLE SPRAYERS
LAWN SPRINKLERS
NOZZLES
FIRE PUMPS

Descriptive Literature and Prices on Any of the Above Gladly Sent on Request

Manufactured by
D. B. SMITH & CO. UTICA, N. Y.

SOAP MACHINERY

Every item shipped from our shops at Newark, N. J., is thoroughly overhauled and rebuilt before shipment.

SPECIALS

1—Soap Chip Dryer, 1200 lb.
2—Dopp 650 gal. Steam Jacketed Kettles.
1—Dopp 1200 lb. Steam Jacketed Crutcher.
1—Hershey 1000 lb. Horizontal Jacketed Crutcher.
1—1000 lb. All Steel Soap Powder Mixer.
2—Holmes & Blanchard 24″ and 36″ 4 cage Disintegrators, for grinding soap powder—no screens, no plugging.

25—Soap Frames, 60″x45½″x14″, with trucks.
6—Plodders, Houchin, Rutschman, 4″, 4½″ double screw, 6″, 8″, 10″.
14—Filter Presses, 42″x42″ to 12″x12″.
8—Granite Mills, 3 and 4 roll, 12″, 18″ and 24″.
15—Horizontal Mixers, Jacketed and Plain, 15 gal. to 1000 gal.

MISCELLANEOUS—Kettles, Mixers, Pony Mixers, Powder Fillers, Tube Fillers, Labelers, Soap Presses, Soap Wrappers, Tanks, Boilers, Pumps, etc.

Send for Latest Bulletin.

CONSOLIDATED
PRODUCTS COMPANY, INC.

15-21 Park Row, N. Y. C. BArclay 7—0600

We buy your idle Machinery—Single items or entire plants.

found money

If *you* are not using Vioflor you are throwing away 40% to 70% of your cost for perfuming insecticides, naphthas, polishes, inks, para-blocks, etc . . . .

Without changing the odor effect now in your product!

It takes but a few minutes to demonstrate this.

Allow us to submit samples and further details.

Manufactured by **CREPIN & DOUMIN, Ltd., London, England**

Sold in the United States and Canada by

JOHN POWELL & CO., Inc.
114 East 32nd Street :: :: New York, N. Y.

ANT Lethelin JELLY BAIT

LETHELIN JELLY is a clean odorless ANT-BAIT which is deadly against ant infestations. Effective where other products fail. Wipes out the nests, completely eradicating colonies. Economical to use, indoors or out. For house ants, golf greens, lawns, greenhouses, etc. A stable jelly which will not melt in the sun or at ordinary temperatures. Lethelin Jelly is harmless to vegetation.

Lethelin Jelly is packed in three sizes of tubes, ½ oz., 1½ oz., and 6½ oz. and also in 5 lb. cans. The small tubes are designed to sell retail at 25c and 50c. The large tubes for exterminators' use, and estates, golf clubs, etc., retail at $1.75. The 5 lb. can retails at $10.00.

For the Jobber—
Lethelin Jelly is a profitable item for resale to stores, clubs, florists, etc., to build repeat orders.

For Exterminators—
Lethelin Jelly is an effective, handy product to use. Certain and economical. Try it once—you'll use it always.

LETHELIN PRODUCTS CO.
Wright Bldg. Manhasset, N. Y.

F. & S.

Quality Colors *for* TOILET SOAPS LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N. Y.
Import—Manufacture—Export

forts; create new products or departments, or revamp your present set up entirely, address Box 333, care *Soap*.

Position Wanted by superintendent and soapmaker. Can make and analyze all kinds of soap and soap materials. Address Box No. 314, care *Soap*.

Superintendent—Man for a number of years past in full charge of large soap plant desires to make new conection. Thoroughly versed in all phases of modern soap making. Taking over new position would require ample time to make arrangements with present employer. Address Box 318, care *Soap*.

Production Manager—Man with twelve years' experience with hand soap maker. Had full charge of production and purchasing raw materials. Address Box No. 311, care *Soap*.

Positions Open

Wanted—Small soap plant in Florida wants soap maker acquainted with manufacture of blue mottled, mechanic's and various cold-made soaps. Man capable of producing soap and handling repairs, plant maintenance, etc. Address Box 327, care *Soap*.

Wanted—Experienced soap maker for plant in New England. Must know manufacture of chips, textile and potash soaps. Give full record and salary expected in letter. Address Box 334, care *Soap*.

Wanted—Superintendent for old established laundry and toilet soap plant. Must possess executive ability with knowledge of soap business. Send complete information as to past record. All inquiries treated strictly confidential. Address Box 335, care *Soap*.

Miscellaneous

Wanted: Used hand-operated tube filler, tube-closer, ointment mill, powder-mixer and sifter; mascara eyebrow moulds, compact dies, etc.; at moderate cash prices. Address Box 323, care *Soap*.

Wanted: Organization to sell soap in chip and powdered form in bulk only. Please state full particulars. Address Box 324, care *Soap*.

Wanted: Sulphonating Tank—10 to 20 barrels, complete. Must be cheap. Address Charles W. Berg Labs., 1827 N. 5th St., Philadelphia, Pa.

M - O - P - CO

Boiled Down Pure

COTTON SEED

65%—**SOAP**—T. F. A.

Any Quantity

Spot — Shipment

▼

Direct Importers

SUNFLOWER OIL

Raw Refined

▼

MURRAY OIL PRODUCTS CO., Inc.

Members

New York Produce Exchange
Oil Trades Assn. of New York

21 WEST STREET, NEW YORK

LOS ANGELES PHILADELPHIA

STEEL DRUMS

That are built to last!

30-55-110 gal. sizes

The BEST Containers for

LIQUID SOAPS
DISINFECTANTS
CLEANSERS
ESSENTIAL OILS
VEGETABLE OILS
CHEMICALS
GLYCERIN
ETC.

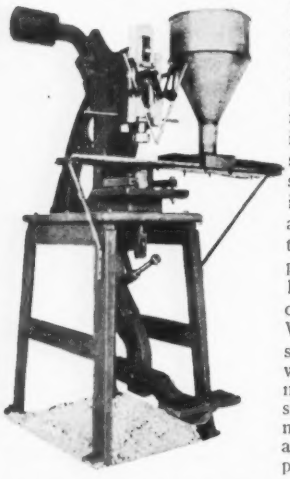
Black, Galvanized, Tinned

Sturdy and long lasting, the Trageser heavy duty steel drum will be carrying your materials to market long after cheap containers have found the junk pile. Order a sample drum.

JOHN TRAGESER STEAM COPPER WORKS
GRAND STREET MASPETH, L. I., N. Y.

Special tanks, tubs, pails, etc.

Machine-Made DEODORANT CAKES and BLOCKS *are big sellers!*



Make your deodorant and moth cakes with this heavy pressure foot press by the cold process and save money while you are increasing sales. A smooth, even cake will sell better because of its improved appearance and will cost less to make because this press not only cuts labor but saves 5% of your raw material. Why not let us make some sample cakes with your own para, naphthalene, etc., and submit complete information regarding cost and manufacturing process?

HOUCHIN MACHINERY CO., INC.
HAWTHORNE, N. J.

COLORS

FAST GREEN FOR SOAP
FAST TO SOAP BY ANY PROCESS
Boiled
Half Boiled
Cold
Transparent or
Liquid
Proved for thirty years
W 710 BLUISH GREEN
W 709 OLIVE GREEN

A. C. DRURY & CO., INC.
International Merchants
Essential Oils—Waxes—Talc-Clay Colors—Zinc Oxide, etc.
219 EAST NORTH WATER ST. CHICAGO

PINE-TINT

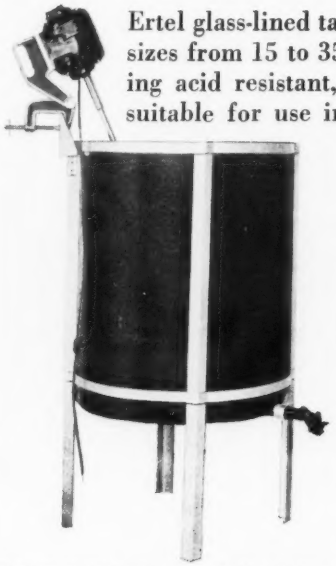
A clean, refreshing type of odor with remarkable power and stability. For Para blocks or bath salts — brilliant green in colour.

$1.50 lb.
Double Strength—
$2.90 lb.

Your Inquiries Invited

Compagnie Parento, Inc.
CROTON-ON-HUDSON, N. Y.
NEW YORK CITY TORONTO

ERTEL MIXERS AND MIXING TANKS



Note the handy grip, an exclusive feature of the Ertel Mixers, which makes them truly portable.

Ertel glass-lined tanks are built in sizes from 15 to 350 gallons. Being acid resistant, they are most suitable for use in the manufacture of soap.

Manufacturers of:

Asbestos Disk Filters, Asbestos Filter Sheets, Portable Mixers, Portable Bottle Fillers, Allegheny Stainless Steel Tanks, Glass Lined Tanks, Electrically Driven Pumps.

ERTEL ENGINEERING CORPORATION
108 EAST 16th STREET NEW YORK, N. Y.

Carnauba Wax—Sales agency on Pacific Coast desires to represent a leading importer of carnauba wax and allied products. Close contact by sales force with polish, floor wax, etc., consumers. Communicate with Box 328, care *Soap*.

Soap Formulas—Manufacturing formulas and complete instructions for their use by mail from man with forty years soap making experience. Any type of soap. Fees extremely moderate. Let me help you solve your plant troubles. Address Box 319, care *Soap*.

Pine Oil Disinfectant—Patent covering non-deteriorating pine oil disinfectant for sale cheap. Prevents oxidation and loss of coefficiency so common in pine oil disinfectants. Gives pine oil disinfectant of 4-5 coefficient which does not lose its germicidal strength. Extra cost negligible. Samples of disinfectant over six years old available for your testing. For further details, write to Box 287, care *Soap*.

George H. Witzleben, formerly secretary of Star Chemical Co., Cincinnati, recently dissolved, has taken over all accounts of the company and will continue the business under the name of the Sur-Wa Exterminator Co.

NEW AND REBUILT SOAP MACHINERY

We offer to the trade our NEW IMPROVED 600 and 1,200 lb. FRAMES, SLABBERS, CUTTING TABLES, FOOT PRESSES, etc. Send for details.

1—Huber Slabber
1—Jones Automatic Soap Press
1—Proctor Soap Chip Dryer, complete
2—8 and 10 in. H. A. Plodders
1—5 Roller Steel Mill
1—Ralston Power Soap Press
1—Soap Boiling Kettle
2—Houchin-Aiken Foot Presses
3—Jacketed Vertical Crutchers
1—1500 lb. Horizontal Crutcher

Cutting Tables, Slabbers, Kettles, Pumps, Tanks, Filter Presses, Wrapping Machines, Tube Fillers, Closers, Crimpers, Dry Powder Mixers, Frames, Pulverizers, Grinders, Amalgamators, Mixers, etc.

Send for Complete List (Bulletin No. 10)

We buy and sell from single items to complete plants.

Stein-Brill Corporation

183 Varick Street — **New York, N. Y.**

Phone: WAlker 5-6892-3-4 — **Cable Address:** "BRISTEN"

KOPPERS WHITE TAR MOTH PROOFING PRODUCTS

Deodorizing
AND MOTHPROOFING
Blocks
PLAIN AND PERFUMED
MADE WITH NAPHTHALENE OR PARA BASE

NAPHTHALENE FLAKES, CHIPS, etc.
DISINFECTANTS EMULSION AND SOLUBLE TYPES
FLY SPRAYS HOUSEHOLD SPRAYS CATTLE SPRAYS

MEMBER NATIONAL INSECTICIDE AND DISINFECTANT MFRS. ASSN. INC. 1914 INC.

THE WHITE TAR COMPANY
OF NEW JERSEY, INC.
PHONE KEARNY 2-3600
BELLEVILLE PIKE — KEARNY, N. J.

"FILMA-SEAL"
(the double seal of cap and film)

Prevents evaporation and leakage of
Chloroform and other volatile products

STOPS Tampering and is a guard against Counterfeiting.
Furnished with our C. T. Screw Caps or inserted in our plastic caps.
Quickly Applied No added labor cost.

FERDINAND GUTMANN & CO.
Established 1890
BROOKLYN — NEW YORK

U. S. Patents Trade Marks Reg. Pats. Pending

Where to buy

RAW MATERIALS AND EQUIPMENT

for the Manufacture of Soaps and Sanitary Products

NOTE: This is a classified list of the companies which advertise regularly in *Soap.* It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 120, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
Columbia Alkali Co.
Dow Chemical Co.
Hooker Electrochemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Stauffer Chemical Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

AROMATIC CHEMICALS

Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer, Inc.
A. C. Drury & Co.
E. I. du Pont de Nemours & Co.
Felton Chemical Co.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Maybee & Reynard, Inc.
Monsanto Chemical Co.
Naugatuck Chemical Co.
Newport Chemical Works
Sherka Chemical Co.
Solvay Sales Corp.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

BULK AND PRIVATE BRAND PRODUCTS

An-Fo Manufacturing Co.
Baird & McGuire, Inc.
Chemical Compounding Co.
Chemical Supply Co.
Clifton Chemical Co.
Davies-Young Soap Co.
Eagle Soap Corp.
Federal Varnish Co.
Fergusson Laboratories
Fuld Bros.
Hammond Paint & Chemical Co.
Harley Soap Co.
Hull Co.
Koppers Products Co.
Kranich Soap Co.
Lethelin Products Co.
Masury Young Co.
New York Soap Corp.
Palmer Products
Philadelphia Quartz Co.
John Powell & Co.
Geo. A. Schmidt & Co.
U. S. Sanitary Specialties Corp.
White Tar Co.
Windsor Wax Co.

CHEMICALS

American Cyanamid & Chemical Corp.
Bowker Chemical Co.
Columbia Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Grasselli Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Co.
Mechling Bros. Chemical Co.
Monsanto Chemical Co.
Newport Chemical Works
Niagara Alkali Co.
Philadelphia Quartz Co.
Solvay Sales Corp.
Standard Silicate Co.
Stauffer Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid oil, etc.)

American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Koppers Products Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

CONTAINERS

Continental Can Co. (Tin Cans)
Maryland Glass Corp. (Bottles)
Metal Package Corp. (Tin Cans)
National Collapsible Tube Co. (Tubes)
Owens-Illinois Glass Co. (Bottles)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products, Inc.
U. S. Sanitary Specialties Corp.

ESSENTIAL OILS

Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer, Inc.
A. C. Drury & Co.
Fritzsche Brothers, Inc.
Leghorn Trading Co.
Magnus, Maybee & Reynard, Inc.
A. M. Todd Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

(*Continued on Page* 118)

Consulting Chemists and Engineers

Specializing in Soaps, Disinfectants, Insecticides, Polishes, Etc.

PEASE LABORATORIES, Inc.

Chemists, Bacteriologists, Sanitarians

39 West 38th Street
New York

Food, Drug and Cosmetic Problems—Compliance with Official Requirements—Meeting New and Anticipated Competitions with Improved and New Products

STILLWELL AND GLADDING, Inc.

Analytical and Consulting Chemists

Members Association of
Consulting Chemists and Chemical Engineers

80 West Street — New York City

KILLING
strength of Insecticides
by PEET GRADY METHOD
(Official proposed code method) and
PYRETHRINS in PYRETHRUM FLOWERS
(by Gnadinger's Method)
We raised and killed more than 1 million flies in the last 2 years.

ILLINOIS CHEMICAL LABORATORIES, INC.
1164 WEST CERMAK ROAD — CHICAGO, ILL.

Skinner & Sherman, Inc.

246 Stuart Street, Boston, Mass.

Bacteriologists and Chemists

Disinfectants tested for germicidal value or phenol coefficient by any of the recognized methods.

Research—Analyses—Tests

Entomological Testing Laboratories, Inc.

We offer you a medium for purchasing insecticides on an intelligent basis.

Entomological testing by the Peet-Grady method, and chemical examination of insecticides are available.

114 E. 32nd St. — New York, N. Y.

LLOYD A. HALL

Research and Consulting Chemist

Specialist in the analysis, development and improvement of soaps, disinfectants and allied products since 1915.

Complete Research and Consulting Service

Laboratories, 1415 West 37th Street, CHICAGO, ILL.

We Manufacture

For The Trade ONLY

Liquid Soap Base
Auto Soaps
Potash Oil Soap
Shampoo
U.S.P. Cresol Compound
Coal Tar Disinfectants
Liquid Soap
Pine Oil Soap
U.S.P. Green Soap
Shampoo Base
Pine Oil Disinfectants
Insecticides

Ask for samples of these specialty bulk products

HARLEY SOAP CO.

2852 E. Pacific St. — Philadelphia

What new products are you bringing out for 1934? Consult us for suggestions.

Foster D. Snell, Inc.
Chemists-:-Engineers
305 Washington St.,
Brooklyn, N. Y.

RAW MATERIAL and EQUIPMENT GUIDE

(*Continued from page* 116)

NOTE: This is a classified list of the companies which advertise regularly in *Soap*. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 120, for page numbers. *"Say you saw it in SOAP."*

MACHINERY

Blanchard Machine Co. (Soap Powder)
Ertel Engineering Co. (Liquid Handling)
Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
Illinois Steel Co. (Stainless Steel)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Stokes & Smith Co. (Packaging Machinery)
Triangle Package Machinery Co. (Pkg. Mchy.)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.
Stein-Brill Co.

METAL CAPS

Anchor Cap & Closure Corp.
Ferdinand Gutmann & Co.

MISCELLANEOUS

Derris Inc. (Derris Products)
Dobbins Mfg. Co. (Pails, Mop Wringers, etc.)
General Naval Stores Co. (Pine Oil-Rosin)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Co. (Decol. carbon, Chalk)
Pylam Products Co. (Lathering Agent)
Rohm & Haas Co. (Insecticide Base)

OILS AND FATS

Industrial Chemical Sales Co.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Theobald Annual By-Products Refinery
Welch, Holme & Clark Co.

PARADICHLORBENZENE

Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.

PERFUMING COMPOUNDS

Budd Aromatic Chemical Co.
Compagnie Parento
Dodge & Olcott Co.
P. R. Dreyer, Inc.
A. C. Drury & Co.
Felton Chemical Corp.
Fritzsche Brothers, Inc.
Givaudan-Delawanna, Inc.
Magnus, Maybee & Reynard, Inc.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PETROLEUM PRODUCTS

Anderson-Pritchard Oil Corp.
Sherwood Petroleum Co.
L. Sonneborn Sons

PYRETHRUM PRODUCTS

(Insect Flowers, Powder and Pyr. Ext.)

An-Fo Mfg. Co. (Extract)
W. Benkert & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
S. B. Penick & Co.
John Powell & Co.
Sherwood Petroleum Co.

SOAP COLORS

A. C. Drury & Co.
Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.

SOAP DISPENSERS

Clifton Chemical Co.
Eagle Soap Corp.
Fuld Bros.
Palmer Products
U. S. Sanitary Specialties Co.

SODIUM SILICATE

American Cyanamid & Chemicals Corp.
General Chemical Co.
Grasselli Chemical Co.
Mechling Bros. Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SPRAYERS

Breuer Electric Mfg. Co.
Dobbins Mfg. Co.
Electric Sprayit Co.
Hudson Mfg. Co.
Lowell Sprayer Co.
D. B. Smith & Co.
U. S. Sanitary Specialties Corp.

STEEL CONTAINERS

John Trageser Steam Copper Works (Pails and Drums)
Wilson & Bennett Mfg. Co. (Pails and Drums)

TRI SODIUM PHOSPHATE

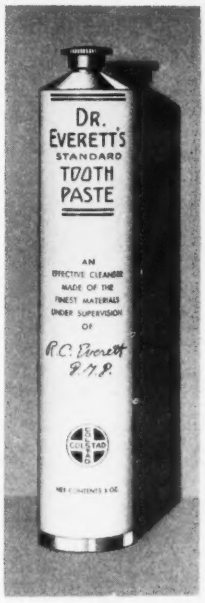
American Cyanamid & Chemicals Corp.
Bowker Chemical Co.
General Chemical Co.
Grasselli Chemical Co.
Swann Chemical Co.
Victor Chemical Works
Warner Chemical Co.

COLLAPSIBLE TUBES

OFFER YOU

1. New Consumer Interest
2. New Sales Opportunities
3. New Display Features

For Your Cream & Paste Products



Let us show you how effectively this can be done by

NATIONAL COLLAPSIBLE TUBE CO.
PROVIDENCE RHODE ISLAND
New York Office—341 Madison Ave., Telephone Murray Hill 2-1626

Bulk or Private Brand WAX Under Your Own Label

BRITE-DRYING FLOOR POLISH
LIQUID—PASTE—POWDER
AUTOMOBILE WAX
AUTOMOBILE CLEANER

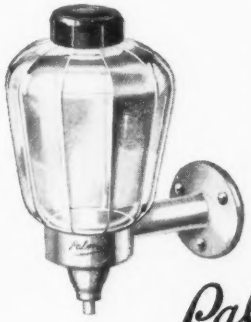
WINDSOR PRODUCTS have been marketed for many years. Their success with the trade is due to the experience and care with which they are made. Our specialty is our private brand department, equipped with automatic printing presses to handle bulk business as well as small orders, without additional cost to our customers.

WINDSOR products and prices are right. Let us save you money and trouble in acting as your wax manufacturing department.

WINDSOR WAX CO.
50 CHURCH ST. NEW YORK
Phone REctor 2-0661
Factory: 611-617 Newark St., Hoboken, N. J.

PALMER SOAP DISPENSERS

The Palmer **SUPER SERVER** Dispenser (right) is priced very low but has no equal in value. Metal parts are non-corrosive, stainless, chrome alloy. One piece bracket in beautiful satin chrome-like finish. Valve parts easily removed for cleaning or replacement. Crystal glass decagon bowl (opal glass on special order)—decagon black bakelite cap. Large 1-inch opening makes filling easy—no need for removing or inverting bowl. The lowest priced push-in dispenser—yet neat, compact, durable.



The Palmer "D.C." Dispenser (dependable construction), shown at the left, is the lowest priced dispenser offered. Has simple, positive spring-controlled valve. All metal parts chrome nickel plated. Fill through large 1-inch top opening without removing or inverting bowl. Crystal glass decagon bowl (opal glass on special order)—with decagon black bakelite cap.

Palmer PRODUCTS INC
WAUKESHA, WIS.
Adjacent to Milwaukee

NRA MEMBER U.S. WE DO OUR PART

PYLA-ODORS

COLOR AND PERFUME IN A SINGLE OPERATION

BATH SALTS
LIQUID SOAPS
PARA BLOCKS
NAPHTHALENE

FAST COLORS
LASTING ODORS
MODERATE PRICES

PYLAM PRODUCTS CO., Inc.
Mfg. Chemists, Importers, Exporters
799 GREENWICH STREET, NEW YORK CITY
CABLE ADDRESS PYLAMCO

INDEX TO ADVERTISERS

For product classification see pages 116 and 118

* For further details see announcement in 1934 SOAP BLUE BOOK.

*American Cyanamid & Chemicals Corp. 42
Anchor Cap & Closure Corp. 8
Anderson-Prichard Oil Corp. 84
An-Fo Manufacturing Co. 110

*Baird McGuire, Inc. 75, 78
*Barrett Co. 101
*W. Benkert & Co. 98
Blanchard Machine Co. 110
Book Advertisement. . . . . January
*Bowker Chemical Co. . . . . February
*Breuer Electric Mfg. Co. 109
*Budd Aromatic Chemical Co. 102

Chemical Compounding Co. 103
Chemical Supply Co. 104
*Clifton Chemical Co. 76
*Columbia Alkali Co. 36
Compagnie Parento. 114
*Consolidated Products Co. 111
*Continental Can Co. . . . . December

*Davies-Young Soap Co. 11
Derris, Inc. 100
Dobbins Mfg. Co. 102
Dodge & Olcott Co. . . . . February
*Dow Chemical Co. 90
*P. R. Dreyer, Inc. 86
*A. C. Drury & Co. 114
*E. I. duPont de Nemours & Co. 4

Eagle Soap Corp. . . . . 2nd Cover
Electric Sprayit Co. 96
Electro Bleaching Gas Co. 13
Entomological Testing Laboratories. 117
Ertel Engineering Co. 114

Federal Varnish Co. 52
Felton Chemical Co. 10, 92
Fergusson Laboratories. 99
Fezandie & Sperrle. 112
Anthony J. Fries. . . . . February
Fritzsche Brothers, Inc. 30
Fuld Brothers. 66

*General Chemical Co. 77
General Naval Stores Co. 20
*Givaudan-Delawanna, Inc. . . . . 73, 3rd Cover
*Grasselli Chemical Co. 38
Ferdinand Gutmann & Co. 115

Lloyd A. Hall. 117
Hammond Paint & Chemical Co. 110
Harley Soap Co. 117
Hercules Powder Co. 72
*Hooker Electrochemical Co. 96
Houchin Machinery. 60, 114
Huber Machine Co. 121
Hudson Mfg. Co. . . . . February
The Hull Co. 121

Illinois Chemical Labs. 117
Illinois Steel Co. 54
Industrial Chemical Sales Co. 24
Interstate Color Co. . . . . February

R. A. Jones & Co. 14

*Koppers Products Co. 106
Kranich Soap Co. 106

*Leghorn Trading Co. . . . . February
Lethelin Products Co. 112
Lowell Sprayer Co. 95

Magnus, Mabee & Reynard, Inc. 105
Manufacturing Chemist. . . . . January
Maryland Glass Corp. 12
Masury Young Co. 98
*McCormick & Co. . . . . Back Cover
McLaughlin Gormley King Co. 70, 71
Mechling Bros. Chemical Co. 121
Metal Package Corp. 6
Monsanto Chemical Co. 3
Murray Oil Products Co. 113

National Collapsible Tube Co. 119
Naugatuck Chemical Co. . . . . November
*Newman Tallow & Soap Machinery Co. 58
New York Soap Corp. 100
*Niagara Alkali Co. 13

Owens-Illinois Glass Co. 74

Palmer Products. 119
Pease Laboratories. 117
*S. B. Penick & Co. 68, 69
Philadelphia Quartz Co. 62
R. L. Polk & Co. 121
*John Powell & Co. 67, 112
*Proctor & Schwartz, Inc. 64
Pylam Products Co. 119

Reilly Tar & Chemical Co. 97
Rohm & Haas Co. 104

*C. G. Sargent's Sons Corp. . . . . February
Geo. A. Schmidt & Co. 110
Sherka Chemical Co. 48
Sherwood Petroleum Co. 107
Skinner & Sherman. 117
D. B. Smith & Co. 111
Foster D. Snell. 117
Soap Trade & Perfumery Review. 64
*Solvay Sales Corp. 46
*L. Sonnenborn Sons. 88
Sprayit. 96
Standard Silicate Co. . . . . February
Stauffer Chemical Co. 48
Stein-Brill Corp. 115
Stillwell & Gladding. 117
*Stokes & Smith Co. . . . . February
*Swann Chemical Co. 112

Theobald Animal By-Products Refinery. 46
A. M. Todd Co. . . . . February
John Trageser Steam Copper Works. 113
Triangle Package Machinery Co. 7

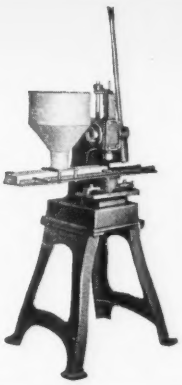
*Ungerer & Co. . . . . Front Cover
U. S. Sanitary Specialties Corp. 94

*Van Ameringen-Haebler, Inc. 34
Albert Verley, Inc. 9
*Victor Chemical Works. 53

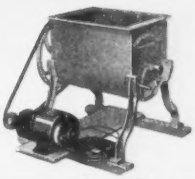
*Warner Chemical Co. 52
*Welch, Holme & Clark Co. 50
*White Tar Co. 115
Wilson & Bennett Mfg. Co. 50
Windsor Wax Co. 119

PARA PRESS

We have available a Power Para Press at an attractive price that will give 80 tons pressure to Para or Naphthalene Blocks, large or small.



PARA BLOCKS — at Low Cost!



These two practical machines are all you need to produce high quality para blocks or cakes. The hand lever press on the left has more power than cheap foot presses. Inexperienced operators can rapidly turn out fine looking blocks, at a saving of from 5% to 10% over the hot process.

The mixer, illustrated on the right, was designed for Para Block use, and will also prove of service on other products such as cleansers, bath salts, roach powders, creams, etc.

HUBER MACHINE CO.
259 46th Street Brooklyn, N. Y.
Makers of Good Soap Machinery for Forty Years

MAILING LISTS

Pave the way to more sales with actual names and addresses of Live prospects.

Get them from the original compilers of basic list information—up to date—accurate—guaranteed.

Tell us about your business. We'll help you find the prospects. No obligation for consultation service.

60 page Reference Book and Mailing LIST CATALOG

Gives counts and prices on 8,000 lines of business. Shows you how to get special lists by territories and line of business. Auto lists of all kinds.
Shows you how to use the mails to sell your products and services. Write today.

R. L. POLK & CO.
Polk Bldg.—Detroit, Mich.
Branches in Principal Cities
World's Largest City Directory Publishers
Mailing List Compilers. Business Statistics. Producers of Direct Mail Advertising.

POWDERED METAL POLISH
RADIATOR CLEANER
STOP-LEAK

in bulk

THE HULL COMPANY
305 Washington Street
Brooklyn, N. Y.

MECHLING'S

PHILADELPHIA
CAMDEN, N. J.
BOSTON, MASS.

EST. 1869

SILICATE OF SODA

MECHLING BROS·CHEMICAL COMPANY

Just Out! . . . the 1934 SOAP BLUE BOOK

CATALOG – BUYER'S GUIDE – TECHNICAL REFERENCE

The new SOAP BLUE BOOK has been mailed to all SOAP subscribers. It has been enlarged considerably to accommodate many new features designed to increase its value to manufacturers and distributors of soaps and sanitary products. The new section described in the following paragraph will make the new SOAP BLUE BOOK a valuable addition to any technical and business library.

BUSINESS AND TECHNICAL REFERENCE SECTION

THE SOAP CODE—a complete text of the Code of Fair Competition for the Soap and Glycerin Industry. FEDERAL SPECIFICATIONS for eleven soaps and cleansers and for glycerin. COLORING SOAPS AND SANITARY PRODUCTS —a review of the principal types of coloring materials with practical suggestions for coloring seventeen of the most important soaps and sanitary specialties. PEET-GRADY TEST FOR HOUSEHOLD INSECTICIDES—the complete official N. A. I. D. M. test for determining the effectiveness of insecticide sprays. SOAP PERFUMING—a review of the principal types of soap perfuming materials with complete tables describing the action of each as a soap perfume. THE F. D. A. TEST FOR DISINFECTANTS AND ANTISEPTICS — complete testing methods prescribed by the Food & Drug Administration and official with the N. A. I. D. M.

BUYER'S GUIDE

A complete list of all raw materials, containers, equipment, packaging materials, etc., bought by manufacturers and distributors of soaps and sanitary products with leading sources of supply for each.

CATALOG SECTION

Condensed catalogs of sixty of the leading concerns supplying the soap and sanitary product industries.

FREE TO "SOAP" SUBSCRIBERS!

The new SOAP BLUE BOOK has only been mailed to paid subscribers. If you do not subscribe, a subscription should be entered promptly to insure receiving a copy. The annual subscription charge, including the BLUE BOOK, is $3.00. The BLUE BOOK alone costs $2.00.

MACNAIR-DORLAND COMPANY INC.
136 LIBERTY STREET
NEW YORK, N. Y.

FREE MONTHLY PAPER GIVES COSMETIC "NEWS"

GET YOUR NAME ON MAILING LIST OF THE "GIVAUDANIAN"

An "earthy" odor is needed at the Century of Progress Exposition, for a coal mine, Washington seethes with the Tugwell Bill agitation. Vetivert prices skyrocket, scrambling perfumers' plans . . .

Lively topics like these, and many of them, all news of the cosmetic field, are discussed every month in our little publication, the Givaudanian. If you'd like to receive it, just send in the coupon below.

This brief but vivid paper will keep you in touch with new products, new prices, new industrial developments—all the "gossip" of your business, which you need to know.

Here are some comments from enthusiastic Givaudanian readers:
"... one of the most interesting and instructive papers received in this office."
"... it is great—helpful and instructive. Please keep on mailing it."
"... congratulations on your bulletins. They are splendid."
"... a very clever idea as well as helpful. Keep it up."
Givaudanian
SAVINGS FOR PERFUMERS
What Strength?
WHY USE 8 Oz. TO GALLON WHEN 7 Oz. IS ENOUGH
PRICE CONTROL HANGS IN THE BALANCE
A FEW "DO'S" AND "DON'TS" FIND USEFUL
PERFUMERS

GENTLEMEN: Kindly put me on your mailing list to receive a copy of the Givaudanian every month without charge.

My Name.....

Company Name.....

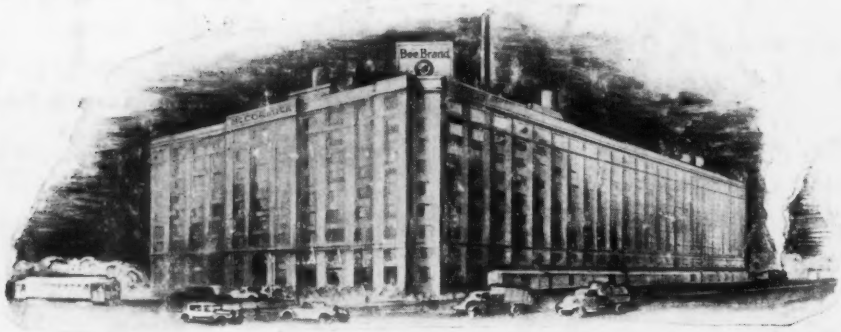
Address.....

City..... State.....

GIVAUDAN-DELAWANNA INC.

80 FIFTH AVENUE
NEW YORK, N. Y.

BRANCHES: PHILADELPHIA, LOS ANGELES, ATLANTA, CINCINNATI, DETROIT, DALLAS, BALTIMORE, NEW ORLEANS, CHICAGO, SAN FRANCISCO, MONTREAL, HAVANA



THE HOUSE OF McCORMICK

Builds on Quality

To manufacture the best has always been the fundamental policy of McCormick & Company. Because of this no single item within the scope of buying, manufacturing and selling is ever slighted.

PYRETHROL 20

A superior pyrethrum concentrate standardized at 2.15 grams pyrethrins per 100 c.c. and available in the following vehicles:

Camphor Oil	Carbon Tetrachloride	Pine-Oil
Acetone	Kerosene	Deo-Base
	Alcohol	

Extracts of Pyrethrum can also be furnished in any concentrate up to 5 grams of pyrethrins per 100 c.c.

PYRETHROL 5

A pyrethrum concentrate available only in Deo-Base.

PYRETHRUM - ROTENONE CONCENTRATE

This extract contains the proper ratio of pyrethrins and rotenone—enabling it to function with greatest efficiency and to remain in solution when diluted.

BULK PYRETHRUM

McCormick & Co. can supply you with whole, granulated or powdered (air float) pyrethrum in any quantity. The Pyrethrum flowers are imported direct from Japan and processed by the finest, most up-to-date milling equipment to insure you the highest quality. For example, temperature control of the mills prevents a temperature rise of more than a few degrees above room temperature. Every step in the manufacturing process is in accordance with this policy.

DERRIS DERIVATIVES

Our line of Derris products includes:

Derris Resinate containing 25% Rotenone and 75% Resins.

Derris Extract containing 5 grams Rotenone per 100 c.c.

Derris Powder, standardized, containing 4% Rotenone.

Rotenone Crystals as solvate—71% Rotenone.

Also Rotenone Technical and C. P.

McCORMICK & CO., INC.

STANDARDIZED PYRETHRUM AND DERRIS INSECTICIDES

BALTIMORE, MD., U. S. A.

New York Philadelphia Pittsburgh Memphis Houston San Francisco Toronto, Can.